

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 23, 2004, 10:36:00 ; Search time 155 Seconds  
(without alignments)  
280.040 Million cell updates/sec

Title: US-10-083-849B-1

Perfect score: 632

Sequence: 1 MNAQEDTTPGSGTFRPPT.....ESLITTPSRPTARRRL 121

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2002273 seqs, 358729299 residues

Total number of hits satisfying chosen parameters: 2002273

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_Geneseq\_23Sep04:\*

1: Geneseqp1980s:\*

2: Geneseqp1990s:\*

3: Geneseqp2000s:\*

4: Geneseqp2001s:\*

5: Geneseqp2002s:\*

6: Geneseqp2003as:\*

7: Geneseqp2003bs:\*

8: Geneseqp2004s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	632	100.0	121	5 AAU98742	Aau98742 Chicken a
2	632	100.0	121	7 ADE52796	Ades2796 Human apo
3	632	100.0	121	7 ADL13007	Adm13007 Chicken a
4	629	99.5	121	2 AAR5201	Aar5201 VP3 prote
5	629	99.5	121	2 AAR8499	Aar8499 VP3 of ch
6	629	99.5	121	6 ABP56072	Abp56072 Chicken a
7	624	98.7	121	5 AAU98752	Aau98752 Chicken a
8	624	98.7	121	5 AAU98750	Aau98750 Chicken a
9	624	98.7	121	5 AAU98751	Aau98751 Chicken a
10	624	98.7	121	6 ABP56092	Abp56092 TAT-VP3 f
11	624	98.7	190	6 ABP56095	Abp56095 PTD4-VP3
12	624	98.7	190	6 ABP56096	Abp56096 PTD5-VP3
13	624	98.7	190	6 ABP56094	Abp56094 PTD3-VP3
14	624	98.7	422	6 ABP56097	Abp56097 TAT-GST-V
15	624	98.7	432	6 ABP56093	Abp56093 TAT-ecFP-
16	624	98.7	786	6 ABR39984	Abr39984 CIAV prot
17	623	98.6	121	5 AAU98755	Aau98755 Chicken a
18	623	98.6	121	5 AAU98754	Aau98754 Chicken a
19	623	98.6	121	5 AAU98756	Aau98756 Chicken a
20	622	98.4	121	7 ADL13011	Adm13011 Apoptin 1
21	621	98.3	121	5 AAU98753	Aau98753 Chicken a
22	621	98.3	134	4 AAY72942	Aay72942 CAV apopt
23	621	98.3	140	4 AAY72943	Aay72943 CAV hexah
24	621	98.3	522	6 AAG79626	Aag79626 Apoptin-T
25	619	97.9	121	5 AAU98757	Aau98757 Chicken a

ALIGNMENTS

RESULT 1

AAU98742

ID AAU98742 standard; peptide; 121 AA.

XX AC AAU98742;

XX XX

DT 27-AUG-2002 (first entry)

XX DE Chicken anemia virus synthesised apoptin protein.

XX XX

KW Immunogenic peptide; apoptin; cancer; leukaemia; p53; apoptosis; mutuin;  
KW cytostatic; autoimmune disease; immunosuppressive; VP3; tumour; Bcl-2;  
KW gene therapy; hyperplasia; metaplasia; dysplasia; Bcr-abl; mutant;  
KW Bcl-2-associating protein; BAG-1; cell proliferation disorder.

XX OS Chicken anemia virus.

OS Synthetic.

XX XX

Key Location/Qualifiers

FT Misc-difference 116

FT . /note= "Wild-type Lys substituted by Arg"

XX XX

PN WO200232954-A2.

XX XX

PD 25-APR-2002.

XX PF 19-OCT-2001; 2001WO-NL000771.

XX PR 20-OCT-2000; 2000EP-00203652.

XX PR 20-OCT-2000; 2000US-0242397P.

XX PA (LEAD-) LEADD BV.

XX XX

PI Noteborn MM, Rohn JL, Mumberg D, Donner P;

XX XX

DR WPI; 2002-463306/49.

XX XX

PT Novel isolated or recombinant phosphorylated Apoptin or its functional  
PT equivalent or fragment, useful for detecting presence of cancer cells or  
PT cancer prone cells, and for treating cancer or autoimmune disease.

XX XX

PS Disclosure; Fig 1; 62pp; English.

XX CC The invention relates to an isolated or recombinant phosphorylated

XX CC Apoptin (I) also known as VP3 or its functional equivalent and/or its

XX CC functional fragment. Apoptin induces apoptosis in human malignant and

XX CC transformed cell lines but not in untransformed cells, by a p53

XX CC independent mechanism. Apoptin is therefore a candidate therapeutic for

CC selective destruction of tumour cells which are resistant to  
 CC chemotherapeutic agents inducing p53/Bcl-2 associated apoptosis. Also  
 CC included are a vector comprising a nucleic acid encoding apoptin, (or its  
 CC functional equivalent and/or its functional fragment) which can be  
 CC phosphorylated and a nucleic acid encoding a kinase capable of  
 CC host cell comprising the vector or vehicle, an anti-apoptin antibody, a  
 CC nucleic acid encoding the antibody, a vector comprising the antibody,  
 CC nucleic acid, a host cell comprising the antibody nucleic acid or vector,  
 CC Apoptin is useful for diagnostic purposes, for detecting the presence of  
 CC cancer cells or cells that are cancer prone, for identifying a putative  
 CC cancer-inducing agent, for testing the in vitro treatment effect of  
 CC apoptin on tumour cells, and for identifying a tumour specific kinase.  
 CC Compositions comprising the apoptins and antibodies are useful for  
 CC treating an individual carrying a disease where enhanced cell  
 CC proliferation or decreased cell death is observed, e.g. cancer, leukaemia  
 CC or auto-immune disease. Apoptin is useful as a therapeutic compound for  
 CC the selective destruction of tumour cells or hyperplasia, metaplasia or  
 CC dysplasia. Apoptin has no toxic effect in in vivo treatment regimes and  
 CC induces apoptosis in the absence of functional p53 and cannot be blocked  
 CC by Bcl-2, Bcr-abl or the Bcl-2-associated protein BAG-1. The present  
 CC sequence is a synthesised apoptin containing a Lys to Arg mutation at  
 CC position 116  
 XX  
 SQ Sequence 121 AA;

Query Match 100.0%; Score 632; DB 5; Length 121;  
 Best Local Similarity 100.0%; Pred. No. 2.5e-61;  
 Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60  
 |||||  
 DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60  
 |||||  
 QY 61 TADNSETGFKNVPLDRLTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120  
 |||||  
 DB 61 TADNSETGFKNVPLDRLTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120  
 |||||  
 QY 121 L 121  
 |||||  
 DB 121 L 121  
 |||||

RESULT 2  
 ADE52796  
 ID ADE52796 standard; peptide; 121 AA.  
 AC ADE52796;  
 XX  
 XX  
 DT 29-JAN-2004 (first entry)  
 XX  
 DE Human apoptin.  
 XX  
 KW human; apoptin; NLS; nuclear localisation signal;  
 KW aberrant-specific apoptosis; cytostatic; immunosuppressive; gene therapy;  
 KW cell proliferation; cancer; autoimmune disease.  
 XX  
 OS Homo sapiens.  
 XX  
 XX WO2003089467-A1.  
 PN  
 XX 30-OCT-2003.  
 PD  
 XX 18-MAR-2003; 2003WO-NL000195.  
 PF  
 XX 19-APR-2002; 2002EP-00076597.  
 PR  
 XX (LEAD-) LEADD BV.  
 PA  
 XX Noteborn MMH, Danen-Van Oorschot AAM;  
 PI  
 XX WPI; 2003-845522/78.  
 DR  
 XX

PT New fragment of Apoptin that induces aberrant-specific apoptosis, useful  
 PT in preparing a medicament for treating a disease associated with enhanced  
 PT cell proliferation or decreased cell death, e.g., cancer or autoimmune  
 PT disease.  
 XX  
 PS Claim 2; Fig 1; 46pp; English.  
 XX  
 CC The invention relates to a novel isolated or recombinant fragment of  
 CC Apoptin that is capable of inducing aberrant-specific apoptosis. A  
 CC peptide of the invention has cytostatic, and immunosuppressive activity,  
 CC and may have a use in gene therapy. The fragment of Apoptin, nucleic  
 CC acid, vector, gene delivery vehicle or host cell is useful in preparing a  
 CC medicament for treating a disease where enhanced cell proliferation or  
 CC decreased cell death is observed, e.g., cancer or autoimmune disease. The  
 CC present sequence is used in the exemplification of the invention.

XX Sequence 121 AA;

Query Match 100.0%; Score 632; DB 7; Length 121;  
 Best Local Similarity 100.0%; Pred. No. 2.5e-61;  
 Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60  
 |||||  
 DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60  
 |||||  
 QY 61 TADNSETGFKNVPLDRLTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120  
 |||||  
 DB 61 TADNSETGFKNVPLDRLTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120  
 |||||  
 QY 121 L 121  
 |||||  
 DB 121 L 121  
 |||||

RESULT 3  
 ADM13007  
 ID ADM13007 standard; protein; 121 AA.  
 XX  
 AC ADM13007;  
 XX  
 DT 20-MAY-2004 (first entry)  
 XX  
 DE Chicken anaemia virus (CAV) Apoptin.  
 XX  
 KW Apoptin; VP3; CAV; tumour-specific phosphorylation;  
 KW tumour-specific kinase; endogenous substrate; identification;  
 KW kinase inhibitor; kinase modulator; cell proliferative disorder;  
 KW apoptotic disorder; cancer; autoimmune disease; cytostatic;  
 KW immunosuppressive; gene therapy.  
 XX  
 OS Chicken anemia virus.  
 XX  
 FH Key Location/Qualifiers  
 FT Protein 80..121  
 FT /note= "This fragment is an inhibitor of an aberrant-  
 FT specific Apoptin kinase (tumour-specific kinase)"  
 FT Misc-difference 106..110  
 FT /note= "These 5 residues are replaced by Ala-Ala-Ala-Ala-  
 FT Ala in a loss-of-function mutant created in the  
 FT invention"  
 FT FT  
 FT Misc-difference 107..108  
 FT /note= "These 2 residues are replaced by Ala-Ala in a  
 FT loss-of-function mutant created in the invention"  
 FT FT  
 FT Modified-site 108  
 FT /note= "Thr is O-phosphorylated only in malignant or  
 FT transformed cells."  
 FT FT  
 XX WO2003089936-A1.  
 PN  
 XX 30-OCT-2003.  
 PD  
 XX 17-APR-2003; 2003WO-NL000294.  
 PF

XX 19-APR-2002; 2002EP-00076596.  
 XX (LEAD-) LEAD BV.  
 XX Noteborn MEM, Rohn JL;  
 XX WIPI; 2003-845561/78.  
 XX Identifying a substrate of a kinase capable of phosphorylating Apoptin in  
 XX an aberrant-specific way, useful in inducing apoptosis in tumor cells,  
 XX comprises preparing aberrant and reference cells and incubating with an  
 XX antibody.

XX Example; Fig 1; 69pp; English.

XX The invention relates to a method for identifying a substrate of a kinase  
 CC capable of phosphorylating Apoptin (also known as VP3) in a manner  
 CC characteristic of malignant and transformed cells (aberrant cells).  
 CC Apoptin is a small protein derived from chicken anaemia virus (CAV) which  
 CC induces apoptosis in malignant and transformed cells, but not in normal  
 CC cells. This pattern of apoptotic activity is related to the finding that  
 CC Apoptin is phosphorylated on Thr 108 in aberrant cells, whereas it is not  
 CC phosphorylated at this position in normal cells, indicating that there is  
 CC a tumour-specific kinase activity. The method of the invention aims to  
 CC identify endogenous cellular substrates for this tumour-specific kinase  
 CC and involves preparing lysates from aberrant and from normal reference  
 CC cells; incubating the components of the lysates with a molecule capable  
 CC of recognising phosphorylated Apoptin and phosphorylated substrate; and  
 CC visualising the molecule, comparing the lysate components and identifying  
 CC the substrate. The invention also relates to a substrate obtained using  
 CC the above method; a method of obtaining a modulator of a kinase involved  
 CC in aberrant-specific Apoptin phosphorylation; a protein inhibitor of an  
 CC aberrant-specific Apoptin kinase; nucleic acids encoding the protein  
 CC inhibitor; vectors, host cells and gene delivery vehicles comprising the  
 CC nucleic acids; and methods of selecting and identifying a molecule which  
 CC binds to both aberrant cell-specific Apoptin and a cellular protein that  
 CC is phosphorylated in aberrant cells but not in normal cells. The tumour-  
 CC specific kinase substrate identified according to the method of the  
 CC invention is useful as a drug target. The inhibitor, nucleic acid,  
 CC vector, gene delivery vehicle or host cell may be used to inhibit the  
 CC activity of a tumour-specific kinase towards its endogenous substrate and  
 CC is useful in the treatment of disease where enhanced cell proliferation  
 CC or decreased cell death is observed, e.g., cancer or autoimmune diseases.  
 CC The tumour-specific kinase substrate identified according to the method  
 CC of the invention is useful as a drug target for these disorders. The  
 CC present sequence represents Apoptin. A C-terminal fragment of Apoptin  
 CC (residues 80-121) is disclosed as an inhibitor of an aberrant-specific  
 CC Apoptin kinase.

XX Sequence 121 AA;

Query Match 100.0%; Score 632; DB 7; Length 121;  
 Best Local Similarity 100.0%; Pred. No. 2.5e-61;  
 Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60  
 DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60  
 QY 61 TADNSETGFKNVPLDRTDQPKPKRSKRCSDPSEYRVSELKESLIITTPSRPTARRRIR 120  
 DB 61 TADNSETGFKNVPLDRTDQPKPKRSKRCSDPSEYRVSELKESLIITTPSRPTARRRIR 120  
 QY 121 L 121  
 DB 121 L 121

RESULT 4  
 AAR65201  
 ID AAR65201 standard; protein; 121 AA.  
 XX

AC AAR65201;  
 XX 25-MAR-2003 (revised)  
 DT 19-AUG-1995 (first entry)  
 XX VP3 protein.  
 XX Chicken anaemia virus VP1 protein; apoptosis; cancer therapy; vaccine;  
 KW antitumor; antibody generation.  
 XX Chicken anaemia virus.  
 OS Chicken anaemia virus.  
 XX WO9503414-A2.  
 PN 02-FEB-1995.  
 XX 19-JUL-1994; 94WO-NL000168.  
 PF 20-JUL-1993; 93NL-00001272.  
 XX (AESC-) AESCULAAP BV.  
 PA Noteborn MEM, Koch G;  
 PI WPI; 1995-075240/10.  
 DR N-PSDB; AAQ82830.  
 XX Chicken anaemia virus (CAV) mutant polypeptide(s) - useful as vaccines or  
 PT for inducing apoptosis.  
 XX Claim 1; Fig 3; 53pp; English.  
 XX The sequence corresponds to a VP3 protein from chicken anaemia virus,  
 CC (CAV), and may be used to induce apoptosis directly or to generate  
 CC antibodies against CAV. The protein may be used as a vaccine or an  
 CC antitumor agent. (Updated on 25-MAR-2003 to correct PN field.)  
 XX Sequence 121 AA;  
 SQ Query Match 99.5%; Score 629; DB 2; Length 121;  
 Best Local Similarity 99.2%; Pred. No. 5.3e-61;  
 Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60  
 DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60  
 QY 61 TADNSETGFKNVPLDRTDQPKPKRSKRCSDPSEYRVSELKESLIITTPSRPTARRRIR 120  
 DB 61 TADNSETGFKNVPLDRTDQPKPKRSKRCSDPSEYRVSELKESLIITTPSRPTARRRIR 120  
 QY 121 L 121  
 DB 121 L 121  
 RESULT 5  
 AAR88499  
 ID AAR88499 standard; protein; 121 AA.  
 XX AAR88499;  
 XX 27-AUG-2003 (revised)  
 DT 15-APR-1996 (first entry)  
 XX VP3 of chicken infectious anaemia virus.  
 XX Chicken infectious anaemia virus; vaccination; VP1; VP2; VP3; ss.  
 XX Chicken anaemia virus (usa isolate CIA-1).  
 XX WO9601116-A1.  
 XX

PD 18-JAN-1996.  
XX  
XX 05-JUL-1995; 95WO-US008440.  
XX  
XX 06-JUL-1994; 94US-00271094.  
PR 03-JUL-1995; 95US-00478086.  
XX  
XX (CORR ) CORNELL RES FOUND INC.  
PA  
XX  
PI Schat KA, Soine C, Lucio B, Renshaw R;  
XX  
XX WPI; 1996-087514/09.  
DR N-PSDB; AAT10913.  
XX  
XX Chicken infectious anaemia virus strain CIA-1 genome sequences, and novel  
PT VPI, sequence - useful to control chicken infectious anaemia such as by  
PT vaccination.  
XX  
XX Disclosure; Page 43-44; 59pp; English.  
XX  
XX The genome of the CIA-1 strain of chicken infectious anaemia virus  
CC encodes a VP-1 protein with at least four unique amino acid changes  
CC compared to the VPI protein of other chicken infectious anaemia virus  
CC isolates. The new VPI amino acid sequence exhibits a difference in  
CC pathogenic potential and cell tropism as compared to cell culture-adapted  
CC strains. New sequences (encoding VPI (AAT10911), VP2 (AAT10912) and VP3  
CC (AAT10913)) and the corresponding polypeptides may be used in strategies  
CC to control chicken infectious anaemia such as by vaccination. (Updated on  
CC 27-AUG-2003 to correct OS field.)  
XX  
XX Sequence 121 AA;  
SQ

Query Match 99.5%; Score 629; DB 2; Length 121;  
Best Local Similarity 99.2%; Pred. No. 5.3e-61;  
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
QY 1 MNAQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60  
DB 1 MNAQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60  
QY 61 TADNSESTGKQNPDLRTDQPKPSKRCSDPSEYRVSELKESLITTTSPRPTARRR 120  
DB 61 TADNSESTGKQNPDLRTDQPKPSKRCSDPSEYRVSELKESLITTTSPRPTARRR 120  
QY 121 L 121  
DB 121 L 121

RESULT 6  
ABP56072  
ID ABP56072 standard; protein; 121 AA.  
XX  
XX ABP56072;  
XX  
XX 27-FEB-2003 (first entry)  
XX  
XX Chicken anaemia virus (CAV) VP3 protein.  
XX  
XX Cancer cell death; cancer; tumour; protein transduction domain; CAV;  
KW chicken anaemia virus; cytostatic; proliferative cell disorder;  
KW carcinogenesis; metastasis.  
XX  
XX Chicken anaemia virus.  
OS  
XX WO200285305-A2.  
XX  
XX 31-OCT-2002.  
XX  
XX 24-APR-2002; 2002WO-US013092.  
XX  
XX 24-APR-2001; 2001US-0286099P.  
XX

PA (UNIW ) UNIV WASHINGTON.  
XX  
XX Dowdy SF, Ezhevsky SA, Wadia JS;  
XX  
XX WPI; 2003-093056/08.  
XX  
XX Novel fusion molecule useful for preventing or treating cancer, comprises  
PT a protein transduction domain and a chicken anemia virus VP3 molecule.  
XX  
XX Disclosure; Page 22; 104pp; English.  
XX  
XX The present invention describes a fusion molecule (I) comprising at least  
CC one protein transduction domain (PTD) and at least one chicken anaemia  
CC virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for  
CC inducing cell death. (I) is useful for detecting cancerous or pre-  
CC cancerous cells in a mammal or for killing or injuring cancerous or pre-  
CC cancerous cells in a mammal. (I) is useful as a magnetic bullet to  
CC selectively kill cancer cells in vitro and in vivo, for inducing cell  
CC death, and for preventing or treating cancer and related proliferative  
CC disorders. (I) is also useful for studying mechanisms of carcinogenesis  
CC and metastases eukaryotic cells. (I) effectively transduces VP3 molecules  
CC directly into the cells. (I) attacks cancer and pre-cancerous cells while  
CC leaving normal cells relatively unharmed. Since more cells can be  
CC targeted by (I) when compared with past attempts using different VP3  
CC constructs, potential for patient relapse and side-effects are greatly  
CC reduced. The present sequence represents the CAV VP3 protein sequence  
CC which is given in the exemplification of the present invention  
XX  
XX Sequence 121 AA;  
SQ

Query Match 99.5%; Score 629; DB 6; Length 121;  
Best Local Similarity 99.2%; Pred. No. 5.3e-61;  
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
QY 1 MNAQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60  
DB 1 MNAQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60  
QY 61 TADNSESTGKQNPDLRTDQPKPSKRCSDPSEYRVSELKESLITTTSPRPTARRR 120  
DB 61 TADNSESTGKQNPDLRTDQPKPSKRCSDPSEYRVSELKESLITTTSPRPTARRR 120  
QY 121 L 121  
DB 121 L 121

RESULT 7  
AAU98752  
ID AAU98752 standard; peptide; 121 AA.  
XX  
XX AAU98752;  
XX  
XX 27-AUG-2002 (first entry)  
XX  
XX Chicken anaemia virus apoptin T108A mutant.  
XX  
XX Immunogenic peptide; apoptin; cancer; leukaemia; p53; apoptosis; mutcin;  
KW cytostatic; autoimmune disease; immunosuppressive; VP3; tumour; Bcl-2;  
KW gene therapy; hyperplasia; metaplasia; dysplasia; Bcr-abl; mutant;  
KW Bcl-2-associated protein; BAG-1; cell proliferation disorder;  
KW alanine scanning; phosphorylation.  
XX  
XX Chicken anaemia virus.  
OS  
XX Synthetic.  
XX  
XX Key Location/Qualifiers  
FT Misc-difference 108 /note= "Wild-type Thr substituted by Ala"  
XX  
XX WO200232954-A2.  
XX  
XX 25-APR-2002.

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XX PF 19-OCT-2001; 2001WO-NL0000771.
XX PR 20-OCT-2000; 2000EP-00203652.
XX PR 20-OCT-2000; 2000US-0242397P.
XX PA (LEAD-) LEADD BV.
XX PI Noteborn MHM, Rohn JL, Mumberg D, Donner P;
XX PI WPI; 2002-463306/49.
XX DR
XX PT Novel isolated or recombinant phosphorylated Apoptin or its functional
XX PT equivalent or fragment, useful for detecting presence of cancer cells or
XX PT cancer prone cells, and for treating cancer or autoimmune disease.
XX PS Disclosure; Page; 62pp; English.
XX CC The invention relates to an isolated or recombinant phosphorylated
XX CC Apoptin (I) also known as VP3 or its functional equivalent and/or its
XX CC functional fragment. Apoptin induces apoptosis in human malignant and
XX CC transformed cell lines but not in untransformed cells, by a p53
XX CC independent mechanism. Apoptin is therefore a candidate therapeutic for
XX CC selective destruction of tumour cells which are resistant to
XX CC chemotherapeutic agents inducing p53/Bcl-2 associated apoptosis. Also
XX CC included are a vector comprising a nucleic acid encoding apoptin, (or its
XX CC functional equivalent and/or its functional fragment) which can be
XX CC phosphorylated and a nucleic acid encoding a kinase capable of
XX CC phosphorylating apoptin, a gene delivery vehicle comprising the vector, a
XX CC host cell comprising the vector or vehicle, an anti-apoptin antibody, a
XX CC nucleic acid encoding the antibody, a vector comprising the antibody
XX CC nucleic acid, a host cell comprising the antibody nucleic acid or vector,
XX CC Apoptin is useful for diagnostic purposes, for detecting the presence of
XX CC cancer cells or cells that are cancer prone, for identifying a putative
XX CC cancer-inducing agent, for testing the in vitro treatment effect of
XX CC apoptin on tumour cells, and for identifying a tumour specific kinase.
XX CC Compositions comprising the apoptins and antibodies are useful for
XX CC treating an individual carrying a disease where enhanced cell
XX CC proliferation or decreased cell death is observed, e.g. cancer, leukaemia
XX CC or auto-immune disease. Apoptin is useful as a therapeutic compound for
XX CC the selective destruction of tumour cells or hyperplasia, metaplasia or
XX CC induces apoptosis in the absence of functional p53 and cannot be blocked
XX CC by Bcl-2, Bcr-abl or the Bcl-2-associated protein BAG-1. The present
XX CC sequence is an apoptin mutant created during an alanine scanning
XX CC experiment for mapping the phosphorylation sites in apoptin. Note: The
XX CC present sequence is not shown in the specification but was created by the
XX CC indexer using the information in figure 4 and the wild-type apoptin
XX CC protein sequence
XX SQ Sequence 121 AA;

Query Match          98.7%; Score 624; DB 5; Length 121;
Best Local Similarity 98.3%; Pred. No. 1.9e-60;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNAQEDTPPGSPVFPPTSSRPLETPHCRIRIGIAGTITLSCGCANAPTILRSA 60
DB 1 MNAQEDTPPGSPVFPPTSSRPLETPHCRIRIGIAGTITLSCGCANAPTILRSA 60

QY 61 TADNSETGFKNPVLDLTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPTARRIR 120
DB 61 TADNSETGFKNPVLDLTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPTARRIR 120

QY 121 L 121
DB 121 L 121

RESULT 8
AAU98750
ID AAU98750 standard; peptide; 121 AA.
XX

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AC AAU98750;
XX 27-AUG-2002 (first entry)
XX Chicken anemia virus apoptin T106A mutant.
XX
XX Immunogenic peptide; apoptin; cancer; leukaemia; p53; apoptosis; mutain;
XX cytostatic; autoimmune disease; immunosuppressive; VP3; tumour; Bcl-2;
XX gene therapy; hyperplasia; metaplasia; dysplasia; Bcr-abl; mutant;
XX Bcl-2-associated protein; BAG-1; cell proliferation disorder;
XX alanine scanning; phosphorylation.
XX
XX Chicken anemia virus.
XX Synthetic.
XX
XX Key Location/Qualifiers
XX Misc-difference 106 /note= "Wild-type Thr substituted by Ala"
XX FT
XX WO200232954-A2.
XX
XX 25-APR-2002.
XX
XX 19-OCT-2001; 2001WO-NL0000771.
XX
XX 20-OCT-2000; 2000EP-00203652.
XX
XX 20-OCT-2000; 2000US-0242397P.
XX
XX (LEAD-) LEADD BV.
XX
XX Noteborn MHM, Rohn JL, Mumberg D, Donner P;
XX WPI; 2002-463306/49.
XX
XX Novel isolated or recombinant phosphorylated Apoptin or its functional
XX equivalent or fragment, useful for detecting presence of cancer cells or
XX cancer prone cells, and for treating cancer or autoimmune disease.
XX
XX Disclosure; Page; 62pp; English.
XX
XX The invention relates to an isolated or recombinant phosphorylated
XX Apoptin (I) also known as VP3 or its functional equivalent and/or its
XX functional fragment. Apoptin induces apoptosis in human malignant and
XX transformed cell lines but not in untransformed cells, by a p53
XX independent mechanism. Apoptin is therefore a candidate therapeutic for
XX selective destruction of tumour cells which are resistant to
XX chemotherapeutic agents inducing p53/Bcl-2 associated apoptosis. Also
XX included are a vector comprising a nucleic acid encoding apoptin, (or its
XX functional equivalent and/or its functional fragment) which can be
XX phosphorylated and a nucleic acid encoding a kinase capable of
XX phosphorylating apoptin, a gene delivery vehicle comprising the vector, a
XX host cell comprising the vector or vehicle, an anti-apoptin antibody, a
XX nucleic acid encoding the antibody, a vector comprising the antibody
XX nucleic acid, a host cell comprising the antibody nucleic acid or vector,
XX Apoptin is useful for diagnostic purposes, for detecting the presence of
XX cancer cells or cells that are cancer prone, for identifying a putative
XX cancer-inducing agent, for testing the in vitro treatment effect of
XX apoptin on tumour cells, and for identifying a tumour specific kinase.
XX Compositions comprising the apoptins and antibodies are useful for
XX treating an individual carrying a disease where enhanced cell
XX proliferation or decreased cell death is observed, e.g. cancer, leukaemia
XX or auto-immune disease. Apoptin is useful as a therapeutic compound for
XX the selective destruction of tumour cells or hyperplasia, metaplasia or
XX induces apoptosis in the absence of functional p53 and cannot be blocked
XX by Bcl-2, Bcr-abl or the Bcl-2-associated protein BAG-1. The present
XX sequence is an apoptin mutant created during an alanine scanning
XX experiment for mapping the phosphorylation sites in apoptin. Note: The
XX present sequence is not shown in the specification but was created by the
XX indexer using the information in figure 4 and the wild-type apoptin
XX protein sequence
XX SQ Sequence 121 AA;

```

Query Match 98.7%; Score 624; DB 5; Length 121;  
 Best Local Similarity 98.3%; Pred. No. 1.9e-60;  
 Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTTPPGSTVFRPPTSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60  
 'Db 1 MNALQEDTTPPGSTVFRPPTSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60

QY 61 TADNSESTGFKNVPLDRTDQPKPPSKRSCDSEYRVSELKESLITTPSRPTARRR 120  
 Db 61 TADNSESTGFKNVPLDRTDQPKPPSKRSCDSEYRVSELKESLITTPSRPTARRR 120

QY 121 L 121  
 Db 121 L 121

RESULT 9  
 AAU98751  
 ID AAU98751 standard; peptide; 121 AA.  
 AC AAU98751;  
 XX  
 XX  
 DT 27-AUG-2002 (first entry)  
 DE Chicken anaemia virus apoptin T107A mutant.  
 XX  
 KW Immunogenic peptide; apoptin; cancer; leukaemia; p53; apoptosis; mitein;  
 KW cytotoxic; autoimmune disease; immunosuppressive; VP3; tumour; Bcl-2;  
 KW gene therapy; hyperplasia; metaplasia; dysplasia; Bcr-abl; mutant;  
 KW Bcl-2-associated protein; BAG-1; cell proliferation disorder;  
 KW alanine scanning; phosphorylation.  
 XX  
 OS Chicken anaemia virus.  
 OS Synthetic.  
 FH Key Location/Qualifiers  
 FT Misc-difference 107 /note= "Wild-type Thr substituted by Ala"  
 FT  
 XX WO200232954-A2.  
 XX  
 XX 25-APR-2002.  
 XX  
 XX 19-OCT-2001; 2001WO-NL000771.  
 XX  
 XX 20-OCT-2000; 2000EP-00203652.  
 PR 20-OCT-2000; 2000US-0242397P.  
 XX  
 XX (LEAD-) LEADD BV.  
 XX  
 XX Noteborn MMH, Rohn JL, Mumberg D, Donner P;  
 PI  
 XX WPI; 2002-463306/49.  
 XX  
 XX Novel isolated or recombinant phosphorylated Apoptin or its functional  
 PT equivalent or fragment, useful for detecting presence of cancer cells or  
 PT cancer prone cells, and for treating cancer or autoimmune disease.  
 XX  
 PS Disclosure; Page; 62pp; English.  
 PS  
 XX The invention relates to an isolated or recombinant phosphorylated  
 CC Apoptin (I) also known as VP3 or its functional equivalent and/or its  
 CC functional fragment. Apoptin induces apoptosis in human malignant and  
 CC transformed cell lines but not in untransformed cells, by a p53  
 CC independent mechanism. Apoptin is therefore a candidate therapeutic for  
 CC selective destruction of tumour cells which are resistant to  
 CC chemotherapeutic agents inducing p53/Bcl-2 associated apoptosis. Also  
 CC included are a vector comprising a nucleic acid encoding apoptin, (or its  
 CC functional equivalent and/or its functional fragment) which can be  
 CC phosphorylated and a nucleic acid encoding a kinase capable of  
 CC phosphorylating apoptin, a gene delivery vehicle comprising the vector, a

CC host cell comprising the vector or vehicle, an anti-apoptin antibody, a  
 CC nucleic acid encoding the antibody, a vector comprising the antibody  
 CC nucleic acid, a host cell comprising the antibody nucleic acid or vector,  
 CC Apoptin is useful for diagnostic purposes, for detecting the presence of  
 CC cancer cells or cells that are cancer prone, for identifying a putative  
 CC cancer-inducing agent, for testing the in vitro treatment effect of  
 CC apoptin on tumour cells, and for identifying a tumour specific kinase.  
 CC Compositions comprising the apoptins and antibodies are useful for  
 CC treating an individual carrying a disease where enhanced cell  
 CC proliferation or decreased cell death is observed, e.g. cancer, leukaemia  
 CC or auto-immune disease. Apoptin is useful as a therapeutic compound for  
 CC the selective destruction of tumour cells or hyperplasia, metaplasia or  
 CC dysplasia. Apoptin has no toxic effect in in vivo treatment regimes and  
 CC induces apoptosis in the absence of functional p53 and cannot be blocked  
 CC by Bcl-2, Bcr-abl or the Bcl-2-associated protein BAG-1. The present  
 CC sequence is an apoptin mutant created during an alanine scanning  
 CC experiment for mapping the phosphorylation sites in apoptin. Note: The  
 CC present sequence is not shown in the specification but was created by the  
 CC indexer using the information in figure 4 and the wild-type apoptin  
 CC protein sequence  
 XX  
 XX Sequence 121 AA;

Query Match 98.7%; Score 624; DB 5; Length 121;  
 Best Local Similarity 98.3%; Pred. No. 1.9e-60;  
 Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTTPPGSTVFRPPTSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60  
 Db 1 MNALQEDTTPPGSTVFRPPTSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60

QY 61 TADNSESTGFKNVPLDRTDQPKPPSKRSCDSEYRVSELKESLITTPSRPTARRR 120  
 Db 61 TADNSESTGFKNVPLDRTDQPKPPSKRSCDSEYRVSELKESLITTPSRPTARRR 120

QY 121 L 121

Db 121 L 121

RESULT 10

ABP56092

ID ABP56092 standard; protein; 190 AA.

XX ABP56092;

XX 27-FEB-2003 (first entry)

XX TAT-VP3 fusion protein.

XX Cancer cell death; cancer; tumour; protein transduction domain; CAV;  
 KW chicken anaemia virus; cytostatic; proliferative cell disorder;  
 KW carcinogenesis; metastasis; fusion protein.

XX Chicken anaemia virus.

OS Synthetic.

XX WO200285305-A2.

XX 31-OCT-2002.

XX 24-APR-2002; 2002WO-US013092.

XX 24-APR-2001; 2001US-0286099P.

XX (UNIW ) UNIV WASHINGTON.

XX Dowdy SP, Ezhevsky SA, Wadia JS;

XX WPI; 2003-093056/08.

XX N-PSDB; AB221714.

XX Novel fusion molecule useful for preventing or treating cancer, comprises

PT a protein transduction domain and a chicken anemia virus VP3 molecule.  
XX Claim 36; Fig 2; 104pp; English.  
XX  
CC The present invention describes a fusion molecule (I) comprising at least  
CC one protein transduction domain (PTD) and at least one chicken anaemia  
CC virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for  
CC inducing cell death. (I) is useful for detecting cancerous or pre-  
CC cancerous cells in a mammal or for killing or injuring cancerous or pre-  
CC cancerous cells in a mammal. (I) is useful as a magnetic bullet to  
CC selectively kill cancer cells in vitro and in vivo, for inducing cell  
CC death, and for preventing or treating cancer and related proliferative  
CC disorders. (I) is also useful for studying mechanisms of carcinogenesis  
CC and metastases eukaryotic cells. (I) effectively transduces VP3 molecules  
CC directly into the cells. (I) attacks cancer and pre-cancerous cells while  
CC leaving normal cells relatively unharmed. Since more cells can be  
CC targeted by (I) when compared with past attempts using different VP3  
CC constructs, potential for patient relapse and side-effects are greatly  
CC reduced. The present sequence represents a TAT-VP3 fusion protein from  
CC the present invention  
XX  
SQ Sequence 190 AA;  
  
Query Match 98.7%; Score 624; DB 6; Length 190;  
Best Local Similarity 99.2%; Pred. No. 3.3e-60;  
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
  
QY 2 NALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITSLCGCANARAPTURSAT 61  
DB 71 NALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITSLCGCANARAPTURSAT 130  
  
QY 62 ADNSESTGFKNVPLDRTDQPKPSKRSKSCDPSEYRVSELKESLITTTSPRPTARRRRL 121  
DB 131 ADNSESTGFKNVPLDRTDQPKPSKRSKSCDPSEYRVSELKESLITTTSPRPTARRRRL 190  
  
RESULT 11  
ABP56095  
ID ABP56095 standard; protein; 190 AA.  
XX  
AC ABP56095;  
XX  
XX 27-FEB-2003 (first entry)  
DT  
DE PTD4-VP3 fusion protein.  
XX  
XX Cancer cell death; cancer; tumour; protein transduction domain; CAV;  
XX chicken anaemia virus; cytostatic; proliferative cell disorder;  
XX carcinogenesis; metastasis; fusion protein.  
XX  
XX Chicken anaemia virus.  
XX Synthetic.  
XX  
XX WO200285305-A2.  
XX  
XX 31-OCT-2002.  
XX  
XX 24-APR-2002; 2002WO-US013092.  
XX  
XX 24-APR-2001; 2001US-0286099P.  
XX  
XX (UNIW ) UNIV WASHINGTON.  
XX  
XX Dowdy SF, Ezhevsky SA, Wadia JS;  
XX  
XX WPI; 2003-093056/08.  
XX  
XX Novel fusion molecule useful for preventing or treating cancer, comprises  
XX a protein transduction domain and a chicken anemia virus VP3 molecule.  
XX  
XX Claim 36; Fig 5B; 104pp; English.  
XX  
XX The present invention describes a fusion molecule (I) comprising at least

CC one protein transduction domain (PTD) and at least one chicken anaemia  
CC virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for  
CC inducing cell death. (I) is useful for detecting cancerous or pre-  
CC cancerous cells in a mammal or for killing or injuring cancerous or pre-  
CC cancerous cells in a mammal. (I) is useful as a magnetic bullet to  
CC selectively kill cancer cells in vitro and in vivo, for inducing cell  
CC death, and for preventing or treating cancer and related proliferative  
CC disorders. (I) is also useful for studying mechanisms of carcinogenesis  
CC and metastases eukaryotic cells. (I) effectively transduces VP3 molecules  
CC directly into the cells. (I) attacks cancer and pre-cancerous cells while  
CC leaving normal cells relatively unharmed. Since more cells can be  
CC targeted by (I) when compared with past attempts using different VP3  
CC constructs, potential for patient relapse and side-effects are greatly  
CC reduced. The present sequence represents a PTD4-VP3 fusion protein from  
CC the present invention  
XX  
SQ Sequence 190 AA;  
  
Query Match 98.7%; Score 624; DB 6; Length 190;  
Best Local Similarity 99.2%; Pred. No. 3.3e-60;  
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
  
QY 2 NALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITSLCGCANARAPTURSAT 61  
DB 71 NALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITSLCGCANARAPTURSAT 130  
  
QY 62 ADNSESTGFKNVPLDRTDQPKPSKRSKSCDPSEYRVSELKESLITTTSPRPTARRRRL 121  
DB 131 ADNSESTGFKNVPLDRTDQPKPSKRSKSCDPSEYRVSELKESLITTTSPRPTARRRRL 190  
  
RESULT 12  
ABP56096  
ID ABP56096 standard; protein; 190 AA.  
XX  
AC ABP56096;  
XX  
XX 27-FEB-2003 (first entry)  
DT  
DE PTD5-VP3 fusion protein.  
XX  
XX Cancer cell death; cancer; tumour; protein transduction domain; CAV;  
XX chicken anaemia virus; cytostatic; proliferative cell disorder;  
XX carcinogenesis; metastasis; fusion protein.  
XX  
XX Chicken anaemia virus.  
XX Synthetic.  
XX  
XX WO200285305-A2.  
XX  
XX 31-OCT-2002.  
XX  
XX 24-APR-2002; 2002WO-US013092.  
XX  
XX 24-APR-2001; 2001US-0286099P.  
XX  
XX (UNIW ) UNIV WASHINGTON.  
XX  
XX Dowdy SF, Ezhevsky SA, Wadia JS;  
XX  
XX WPI; 2003-093056/08.  
XX  
XX Novel fusion molecule useful for preventing or treating cancer, comprises  
XX a protein transduction domain and a chicken anemia virus VP3 molecule.  
XX  
XX Claim 36; Fig 5C; 104pp; English.  
XX  
XX The present invention describes a fusion molecule (I) comprising at least  
XX one protein transduction domain (PTD) and at least one chicken anaemia  
XX virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for  
XX inducing cell death. (I) is useful for detecting cancerous or pre-  
XX cancerous cells in a mammal or for killing or injuring cancerous or pre-  
XX cancerous cells in a mammal. (I) is useful as a magnetic bullet to



CC selectively kill cancer cells in vitro and in vivo, for inducing cell  
CC death, and for preventing or treating cancer and related proliferative  
CC disorders. (I) is also useful for studying mechanisms of carcinogenesis  
CC and metastases eukaryotic cells. (I) effectively transduces VP3 molecules  
CC directly into the cells. (I) attacks cancer and pre-cancerous cells while  
CC leaving normal cells relatively unharmed. Since more cells can be  
CC targeted by (I) when compared with past attempts using different VP3  
CC constructs, potential for patient relapse and side-effects are greatly  
CC reduced. The present sequence represents a PTD3-VP3 fusion protein from  
CC the present invention  
XX  
SQ Sequence 190 AA;

Query Match 98.7%; Score 624; DB 6; Length 190;  
Best Local Similarity 99.2%; Pred. No. 3.3e-60;  
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
  
QY 2 NALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSAT 61  
Db 71 NALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSAT 130  
  
QY 62 ADNSESTGFKNVPDLRTDQPKPSKRSKCDPSEYRVSELKESLIITTPSRPRTARRIRL 121  
Db 131 ADNSESTGFKNVPDLRTDQPKPSKRSKCDPSEYRVSELKESLIITTPSRPRTARRIRL 190

RESULT 13  
ABP56094  
ID ABP56094 standard; protein; 190 AA.  
XX  
AC ABP56094;  
XX  
DT 27-FEB-2003 (first entry)  
XX  
DE PTD3-VP3 fusion protein.  
XX  
KW Cancer cell death; cancer; tumour; protein transduction domain; CAV;  
KW chicken anaemia virus; cytostatic; proliferative cell disorder;  
KW carcinogenesis; metastasis; fusion protein.  
XX  
OS Chicken anaemia virus.  
OS Synthetic.  
XX  
PN WO200285305-A2.  
XX  
PD 31-OCT-2002.  
XX  
PF 24-APR-2002; 2002WO-US013092.  
XX  
PR 24-APR-2001; 2001US-0286099P.  
XX  
PA (UNIW ) UNIV WASHINGTON.  
XX  
PI Dowdy SF, Ezhevsky SA, Wadia JS;  
XX  
DR WPI; 2003-093056/08.  
XX

PT Novel fusion molecule useful for preventing or treating cancer, comprises  
PT a protein transduction domain and a chicken anaemia virus VP3 molecule.  
XX  
PS Claim 36; Fig 5A; 104pp; English.

XX The present invention describes a fusion molecule (I) comprising at least  
CC one protein transduction domain (PTD) and at least one chicken anaemia  
CC virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for  
CC inducing cell death. (I) is useful for detecting cancerous or pre-  
CC cancerous cells in a mammal or for killing or injuring cancerous or pre-  
CC cancerous cells in a mammal. (I) is useful as a magnetic bullet to  
CC selectively kill cancer cells in vitro and in vivo, for inducing cell  
CC death, and for preventing or treating cancer and related proliferative  
CC disorders. (I) is also useful for studying mechanisms of carcinogenesis  
CC and metastases eukaryotic cells. (I) effectively transduces VP3 molecules  
CC directly into the cells. (I) attacks cancer and pre-cancerous cells while  
CC leaving normal cells relatively unharmed. Since more cells can be  
CC targeted by (I) when compared with past attempts using different VP3  
CC constructs, potential for patient relapse and side-effects are greatly  
CC reduced. The present sequence represents a PTD3-VP3 fusion protein from  
CC the present invention

CC leaving normal cells relatively unharmed. Since more cells can be  
CC targeted by (I) when compared with past attempts using different VP3  
CC constructs, potential for patient relapse and side-effects are greatly  
CC reduced. The present sequence represents a PTD3-VP3 fusion protein from  
CC the present invention  
XX  
SQ Sequence 190 AA;

Query Match 98.7%; Score 624; DB 6; Length 190;  
Best Local Similarity 99.2%; Pred. No. 3.3e-60;  
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
  
QY 2 NALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSAT 61  
Db 71 NALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSAT 130  
  
QY 62 ADNSESTGFKNVPDLRTDQPKPSKRSKCDPSEYRVSELKESLIITTPSRPRTARRIRL 121  
Db 131 ADNSESTGFKNVPDLRTDQPKPSKRSKCDPSEYRVSELKESLIITTPSRPRTARRIRL 190

RESULT 14  
ABP56097  
ID ABP56097 standard; protein; 422 AA.  
XX  
AC ABP56097;  
XX  
DT 27-FEB-2003 (first entry)  
XX  
DE TAT-GST-VP3 fusion protein.  
XX  
KW Cancer cell death; cancer; tumour; protein transduction domain; CAV;  
KW chicken anaemia virus; cytostatic; proliferative cell disorder;  
KW carcinogenesis; metastasis; fusion protein.  
XX  
OS Chicken anaemia virus.  
OS Synthetic.  
XX  
PN WO200285305-A2.  
XX  
PD 31-OCT-2002.  
XX  
PF 24-APR-2002; 2002WO-US013092.  
XX  
PR 24-APR-2001; 2001US-0286099P.  
XX  
PA (UNIW ) UNIV WASHINGTON.  
XX  
PI Dowdy SF, Ezhevsky SA, Wadia JS;  
XX  
DR WPI; 2003-093056/08.  
XX  
DR N-PSDB; AB221716.

PT Novel fusion molecule useful for preventing or treating cancer, comprises  
PT a protein transduction domain and a chicken anaemia virus VP3 molecule.  
XX  
PS Example 5; Fig 18A-D; 104pp; English.

XX The present invention describes a fusion molecule (I) comprising at least  
CC one protein transduction domain (PTD) and at least one chicken anaemia  
CC virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for  
CC inducing cell death. (I) is useful for detecting cancerous or pre-  
CC cancerous cells in a mammal or for killing or injuring cancerous or pre-  
CC cancerous cells in a mammal. (I) is useful as a magnetic bullet to  
CC selectively kill cancer cells in vitro and in vivo, for inducing cell  
CC death, and for preventing or treating cancer and related proliferative  
CC disorders. (I) is also useful for studying mechanisms of carcinogenesis  
CC and metastases eukaryotic cells. (I) effectively transduces VP3 molecules  
CC directly into the cells. (I) attacks cancer and pre-cancerous cells while  
CC leaving normal cells relatively unharmed. Since more cells can be  
CC targeted by (I) when compared with past attempts using different VP3  
CC constructs, potential for patient relapse and side-effects are greatly  
CC reduced. The present sequence represents a TAT-GST-VP3 fusion protein from  
CC the present invention





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OM protein - protein search, using sw model

Run on: December 23, 2004, 10:53:21 ; Search time 38 Seconds  
(without alignments)

211.170 Million cell updates/sec

Title: US-10-083-849B-1

Perfect score: 632

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Gapop 10.0 , Gapext 0.5

Searched: 478139 seqs, 66318000 residues

Total number of hits satisfying chosen parameters: 478139

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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- 4: /cgn2\_6/ptodata/1/iaa/6B COMB.pep.\*
- 5: /cgn2\_6/ptodata/1/iaa/PTUS COMB.pep.\*
- 6: /cgn2\_6/ptodata/1/iaa/backfiles1.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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2	629	99.5	121	2	US-08-911-092-7
3	629	99.5	121	2	US-08-485-001B-7
4	629	99.5	121	3	US-08-454-121A-7
5	629	99.5	121	3	US-08-482-161B-7
6	629	99.5	121	3	US-09-057-963A-6
7	86.5	13.7	478	4	US-09-252-991A-25918
8	85	13.4	488	4	US-09-252-991A-30531
9	83.5	13.2	133	4	US-09-252-991A-25561
10	83.5	13.2	384	4	US-09-252-991A-24427
11	82.5	13.1	222	4	US-09-252-991A-27628
12	81.5	12.9	135	4	US-09-252-991A-29784
13	81	12.8	160	4	US-09-270-767-41118
14	81	12.8	160	4	US-09-270-767-56334
15	81	12.8	195	4	US-09-252-991A-26926
16	80	12.6	288	4	US-09-270-767-46140
17	79.5	12.6	694	3	US-08-559-397A-31
18	78.5	12.4	205	4	US-09-270-767-59394
19	78.5	12.4	380	4	US-09-270-767-43987
20	77	12.2	348	3	US-09-315-794-42
21	77	12.2	348	3	US-09-389-341-42
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23	76.5	12.1	222	4	US-09-252-991A-32998
24	75.5	11.9	285	4	US-09-252-991A-22267
25	74.5	11.8	373	4	US-09-252-991A-29008
26	74	11.7	139	4	US-09-252-991A-18940
27	74	11.7	154	4	US-09-252-991A-23167

28	74	11.7	196	4	US-09-252-991A-23646
29	74	11.7	491	1	US-07-903-103-2
30	74	11.7	491	1	US-08-044-619A-2
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32	74	11.7	491	1	US-08-245-500A-3
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35	74	11.7	491	1	US-08-557-393-3
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39	74	11.7	491	2	US-08-801-718-3
40	74	11.7	491	3	US-09-170-159A-3
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43	73.5	11.6	140	4	US-09-252-991A-28280
44	73.5	11.6	246	4	US-09-252-991A-27629
45	73.5	11.6	882	3	US-09-413-814-78

ALIGNMENTS

RESULT 1  
US-08-489-666C-7  
; Sequence 7, Application US/08489666C  
; Patent No.: 5922600  
; GENERAL INFORMATION:  
; APPLICANT: NO. 5922600eborn, M.H.M  
; APPLICANT: Koch, G.  
; TITLE OF INVENTION: Chicken Anemia Virus mutants and  
; TITLE OF INVENTION: vaccines and uses based on the viral proteins VP1, VP2 and  
; TITLE OF INVENTION: VP3 or sequences of that virus coding therefor.  
; NUMBER OF SEQUENCES: 30  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: RAE-VENTER LAW, P.C.  
; STREET: 260 SHERIDAN AVE., P.O. BOX 60039  
; CITY: PALO ALTO  
; STATE: CA  
; COUNTRY: USA  
; ZIP: 94306  
; COMPUTER READABLE FORM: Floppy disk  
; MEDIUM TYPE: IBM PC compatible  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/489,666C  
; FILING DATE: 07-JUN-1995  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/454,121  
; FILING DATE: 30-NOV-1995  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/030,335  
; FILING DATE: 08-MAR-1993  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: PCT/NL 94/00168  
; FILING DATE: 19-JUL-1994  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: PCT/NL 91/00165  
; FILING DATE: 11-SEP-1991  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: NL 9301272  
; FILING DATE: 20-JUL-1993  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: NL 9002008  
; FILING DATE: 12-SEP-1990  
; ATTORNEY/AGENT INFORMATION:  
; NAME: RAE-VENTER, BARBARA  
; REGISTRATION NUMBER: 32,750  
; REFERENCE/DOCKET NUMBER: LEBV.003.04US  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (650)328-4400

```

; TELEFAX: (650) 328-4477
; TELEX: N/A
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; STRANDEDNESS: unknown
; TOPOLOGY: unknown
; MOLECULE TYPE: protein
; HYPOTHETICAL: NO
; US-08-489-666C-7

Query Match          99.5%; Score 629; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 9.8e-66;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
Db 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
QY 61 TADNSESTGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKSLITTPSRPTARRR 120
Db 61 TADNSESTGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKSLITTPSRPTARRR 120
QY 121 L 121
Db 121 L 121

RESULT 2
US-08-911-092-7
; Sequence 7, Application US/08911092
; Patent No. 5952002
; GENERAL INFORMATION:
; APPLICANT: No. 5952002eborn, Matheus H.M.
; APPLICANT: Koch, Guss
; TITLE OF INVENTION: Chicken Anemia Virus Mutants And Vaccines
; TITLE OF INVENTION: And Uses Based On The Viral Proteins VP1, VP2, And VP3 Or
; TITLE OF INVENTION: Sequences Of That Virus Coding Therefor
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Rae-Venter Law Group, P.C.
; STREET: P.O. Box 60039
; CITY: Palo Alto
; STATE: California
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/911.092
; FILING DATE: 14-AUG-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/454,121
; FILING DATE: 30-NOV-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/NL94/00168
; FILING DATE: 19-JULY-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: NL 9301272
; FILING DATE: 20-JULY-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/030,335
; FILING DATE: 8-MAR-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/NL91/00165
; FILING DATE: 11-SEP-1991

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; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: NL 9002008
; FILING DATE: 12-SEP-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Rae-Venter, Barbara
; REGISTRATION NUMBER: 32,750
; REFERENCE/DOCKET NUMBER: LEBV003.00US1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (650) 328-4400
; TELEFAX: (650) 328-4477
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; TOPOLOGY: unknown
; MOLECULE TYPE: protein
; HYPOTHETICAL: NO
; US-08-911-092-7

Query Match          99.5%; Score 629; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 9.8e-66;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
Db 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
QY 61 TADNSESTGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKSLITTPSRPTARRR 120
Db 61 TADNSESTGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKSLITTPSRPTARRR 120
QY 121 L 121
Db 121 L 121

RESULT 3
US-08-485-001B-7
; Sequence 7, Application US/08485001B
; Patent No. 5981502
; GENERAL INFORMATION:
; APPLICANT: No. 5981502eborn, Matheus H.M.
; APPLICANT: Koch, Guss
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR INDUCING
; TITLE OF INVENTION: APOPTOSIS IN TUMOR CELLS
; NUMBER OF SEQUENCES: 29
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Rae-Venter Law Group, P.C.
; STREET: P.O. Box 60039
; CITY: Palo Alto
; STATE: California
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/485,001B
; FILING DATE: 07-JUNE-1995
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/454,121
; FILING DATE: 30-NOVEMBER-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/NL94/00168
; FILING DATE: 19-JULY-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/030,335
; FILING DATE: 8-MARCH-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: NL 9301272

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;; FILING DATE: 20-JULY-1993  
;; PRIOR APPLICATION DATA:  
;; APPLICATION NUMBER: PCT/NL91/00165  
;; FILING DATE: 11-SEPTEMBER-1991  
;; PRIOR APPLICATION DATA:  
;; APPLICATION NUMBER: NL 9002008  
;; FILING DATE: 12-SEPTEMBER-1990  
;; ATTORNEY/AGENT INFORMATION:  
;; NAME: Rae-Venter, Barbara  
;; REGISTRATION NUMBER: 32,750  
;; REFERENCE/DOCKET NUMBER: LEBV.003.02US  
;; TELECOMMUNICATION INFORMATION:  
;; TELEPHONE: (650) 926-6205  
;; TELEFAX: (650) 424-8760  
;; INFORMATION FOR SEQ ID NO: 7:  
;; SEQUENCE CHARACTERISTICS:  
;; LENGTH: 121 amino acids  
;; TYPE: amino acid  
;; TOPOLOGY: unknown  
;; MOLECULE TYPE: protein  
;; HYPOTHETICAL: NO  
US-08-485-001B-7

Query Match 99.5%; Score 629; DB 2; Length 121;  
Best Local Similarity 99.2%; Pred. No. 9.8e-66;  
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
  
QY 1 MNALQEDTPPGSTVFRPPTSSRPLETHCHREIRIGIAGITITLSLGGCANARAPTLRSA 60  
DB 1 MNALQEDTPPGSTVFRPPTSSRPLETHCHREIRIGIAGITITLSLGGCANARAPTLRSA 60  
  
QY 61 TADNSESTGKKNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120  
DB 61 TADNSESTGKKNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120  
  
QY 121 L 121  
DB 121 L 121

RESULT 4  
US-08-454-121A-7  
; Sequence 7, Application US/08454121A  
; Patent No. 6071520  
; GENERAL INFORMATION:  
; APPLICANT: No. 6071520eborn, Matheus H.M.  
; APPLICANT: Koch, Guus  
; TITLE OF INVENTION: Chicken Anemia Virus Mutants And Vaccines  
; TITLE OF INVENTION: And Uses Based On The Viral Proteins VP1, VP2, And VP3 Or  
; TITLE OF INVENTION: Sequences Of That Virus Coding Therefor  
; NUMBER OF SEQUENCES: 32  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Rae-Venter Law Group, P.C.  
; STREET: P.O. Box 60039  
; CITY: Palo Alto  
; STATE: California  
; COUNTRY: USA  
; ZIP: 94306  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/454,121A  
; FILING DATE: 07-JUNE-1995  
; CLASSIFICATION: 435  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: PCT/NL94/00168  
; FILING DATE: 19-JULY-1994  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: NL 9301272  
; FILING DATE: 20-JULY-1993

;; PRIOR APPLICATION DATA:  
;; APPLICATION NUMBER: US 08/030,335  
;; FILING DATE: 8-MAR-1993  
;; PRIOR APPLICATION DATA:  
;; APPLICATION NUMBER: PCT/NL91/00165  
;; FILING DATE: 11-SEP-1991  
;; PRIOR APPLICATION DATA:  
;; APPLICATION NUMBER: NL 9002008  
;; FILING DATE: 12-SEP-1990  
;; ATTORNEY/AGENT INFORMATION:  
;; NAME: Rae-Venter, Barbara  
;; REGISTRATION NUMBER: 32,750  
;; REFERENCE/DOCKET NUMBER: LEBV.003.00US  
;; TELECOMMUNICATION INFORMATION:  
;; TELEPHONE: (650) 328-4400  
;; TELEFAX: (650) 328-4477  
;; INFORMATION FOR SEQ ID NO: 7:  
;; SEQUENCE CHARACTERISTICS:  
;; LENGTH: 121 amino acids  
;; TYPE: amino acid  
;; TOPOLOGY: unknown  
;; MOLECULE TYPE: protein  
;; HYPOTHETICAL: NO  
US-08-454-121A-7

Query Match 99.5%; Score 629; DB 3; Length 121;  
Best Local Similarity 99.2%; Pred. No. 9.8e-66;  
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
  
QY 1 MNALQEDTPPGSTVFRPPTSSRPLETHCHREIRIGIAGITITLSLGGCANARAPTLRSA 60  
DB 1 MNALQEDTPPGSTVFRPPTSSRPLETHCHREIRIGIAGITITLSLGGCANARAPTLRSA 60  
  
QY 61 TADNSESTGKKNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120  
DB 61 TADNSESTGKKNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120  
  
QY 121 L 121  
DB 121 L 121

RESULT 5  
US-08-482-161B-7  
; Sequence 7, Application US/08482161B  
; Patent No. 6162461  
; GENERAL INFORMATION:  
; APPLICANT: No. 6162461eborn, Matheus H.M.  
; APPLICANT: Koch, Guus  
; TITLE OF INVENTION: Chicken Anemia Virus Mutants And Vaccines  
; TITLE OF INVENTION: And Uses Based On The Viral Proteins VP1, VP2, And VP3 Or  
; TITLE OF INVENTION: Sequences Of That Virus Coding Therefor  
; NUMBER OF SEQUENCES: 30  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Rae-Venter Law Group, P.C.  
; STREET: P.O. Box 60039  
; CITY: Palo Alto  
; STATE: California  
; COUNTRY: USA  
; ZIP: 94306  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/482,161B  
; FILING DATE: 07-JUNE-1995  
; CLASSIFICATION: 424  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/454,121  
; FILING DATE: 30-NOVEMBER-1995  
; PRIOR APPLICATION DATA:

APPLICATION NUMBER: PCT/NL 94/00168  
FILING DATE: 19-JULY-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/030,335  
FILING DATE: 08-MARCH-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: NL 9301272  
FILING DATE: 20-JULY-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: PCT/NL 91/00165  
FILING DATE: 11-SEPTEMBER-1991  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: NL 9002008  
FILING DATE: 12-SEPTEMBER-1990  
ATTORNEY/AGENT INFORMATION:  
NAME: Rae-Venter, Barbara  
REGISTRATION NUMBER: 32,750  
REFERENCE/DOCKET NUMBER: LEBV.003.01US  
TELEPHONE: (650) 926-6205  
TELEFAX: (650) 424-8760  
INFORMATION FOR SEQ ID NO: 7:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 121 amino acids  
TYPE: amino acid  
TOPOLOGY: unknown  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
US-08-482-161B-7

Query Match 99.5%; Score 629; DB 3; Length 121;  
Best Local Similarity 99.2%; Pred. No. 9.8e-66;  
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60  
Db 1 MNALEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60

QY 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120  
Db 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120

QY 121 L 121  
Db 121 L 121

RESULT 6  
US-09-057-963A-6  
Sequence 6, Application US/09057963A  
Patent No. 6217870  
GENERAL INFORMATION:  
APPLICANT: No. 6217870eborn, M.H.M  
APPLICANT: Koch, G.  
TITLE OF INVENTION: Chicken Anemia Virus mutants and  
TITLE OF INVENTION: vaccines and uses based on the viral proteins VP1, VP2 and  
TITLE OF INVENTION: VP3 or sequences of that virus coding therefor.  
NUMBER OF SEQUENCES: 30  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: RAE-VENTER LAW GROUP, P.C.  
STREET: P.O. BOX 60039  
CITY: PALO ALTO  
STATE: CA  
COUNTRY: USA  
ZIP: 94306  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/057,963A  
FILING DATE: 09-APR-1998

CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/489,666  
FILING DATE: 07-JUN-1995  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/454,121  
FILING DATE: 30-NOV-1995  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/030,335  
FILING DATE: 08-MAR-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: PCT/NL 94/00168  
FILING DATE: 19-JUL-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: PCT/NL 91/00165  
FILING DATE: 11-SEP-1991  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: NL 9301272  
FILING DATE: 20-JUL-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: NL 9002008  
FILING DATE: 12-SEP-1990  
ATTORNEY/AGENT INFORMATION:  
NAME: RAE-VENTER, BARBARA  
REGISTRATION NUMBER: 32,750  
REFERENCE/DOCKET NUMBER: LEBV.003.04US  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (650)328-4400  
TELEFAX: (650)328-4477  
TELEX: N/A  
INFORMATION FOR SEQ ID NO: 6:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 121 amino acids  
TYPE: amino acid  
STRANDEDNESS: not relevant  
TOPOLOGY: not relevant  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
US-09-057-963A-6

Query Match 99.5%; Score 629; DB 3; Length 121;  
Best Local Similarity 99.2%; Pred. No. 9.8e-66;  
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60  
Db 1 MNALEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60

QY 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120  
Db 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120

QY 121 L 121  
Db 121 L 121

RESULT 7  
US-09-252-991A-25918  
Sequence 25918, Application US/09252991A  
Patent No. 6551795  
GENERAL INFORMATION:  
APPLICANT: Marc J. Rubenfield et al.  
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS  
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS  
FILE REFERENCE: 107196.136  
CURRENT APPLICATION NUMBER: US/09/252,991A  
CURRENT FILING DATE: 1999-02-18  
PRIOR APPLICATION NUMBER: US 60/074,788  
PRIOR FILING DATE: 1998-02-18  
PRIOR APPLICATION NUMBER: US 60/094,190  
PRIOR FILING DATE: 1998-07-27  
NUMBER OF SEQ ID NOS: 33142

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; SEQ ID NO 25918
; LENGTH: 757
; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-25918

Query Match      13.7%; Score 86.5; DB 4; Length 757;
Best Local Similarity 27.9%; Pred. No. 0.22;
Matches 36; Conservative 13; Mismatches 53; Indels 27; Gaps 4;

QY 9 PPGPSTVFRPPTS-SRPLETP-----HCREIRIGIAGITITLSLGCANARA-- 54
DB 372 PGOAGIAPAGSHSRAGDPRQOYLAVDHRHRRRRAAAGRRUSLQPGADARGG 431
QY 55 ---PTLSATADNSESSTGFKNVDPDLRTDQPKPSSKKSCDPSEYRVSELKESLITTPSR 111
DB 432 GRPGQSGSRRRPARPRRPGPPRRTDQOPLRHQPCRP-----RLWHRGPAH 481
QY 112 PRTARRRIR 120
DB 482 PRRRRRRMR 490

RESULT 8
US-09-252-991A-30531
; Sequence 30531, Application US/09252991A
; Patent No. 6551795
; GENERAL INFORMATION:
; APPLICANT: Marc J. Rubenfield et al.
; TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
; TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
; FILE REFERENCE: 107196.136
; CURRENT APPLICATION NUMBER: US/09/252,991A
; CURRENT FILING DATE: 1999-02-18
; PRIOR APPLICATION NUMBER: US 60/074,788
; PRIOR FILING DATE: 1998-02-18
; PRIOR APPLICATION NUMBER: US 60/094,190
; PRIOR FILING DATE: 1998-07-27
; NUMBER OF SEQ ID NOS: 33142
; SEQ ID NO 30531
; LENGTH: 488
; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-30531

Query Match      13.4%; Score 85; DB 4; Length 488;
Best Local Similarity 30.3%; Pred. No. 0.18;
Matches 37; Conservative 10; Mismatches 41; Indels 34; Gaps 7;

QY 9 PPGPSTVFRPPTSRRPLETPHCRIRIGIAGITIT-----LSLGCANARAPTILRSA 60
DB 1 PP-----PPTSS-----ARAKVRVGTGIRPNSTSNRPPISSALGCATTCSPWMLPR 48
QY 61 TANSEST-----GFKNVDPDLRTDQKPP-SKKSCDPSEYRVSELKESLITTPSR 111
DB 49 SADSSDTRGRDPCGDGDOORHLR-DQPSPTVSTAYSCSAS-----AVLRPFVCVTMPAMP 103
QY 112 PR 113
DB 104 PR 105

RESULT 9
US-09-252-991A-25561
; Sequence 25561, Application US/09252991A
; Patent No. 6551795
; GENERAL INFORMATION:
; APPLICANT: Marc J. Rubenfield et al.
; TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
; TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
; FILE REFERENCE: 107196.136
; CURRENT APPLICATION NUMBER: US/09/252,991A
; CURRENT FILING DATE: 1999-02-18
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; PRIOR APPLICATION NUMBER: US 60/074,788
; PRIOR FILING DATE: 1998-02-18
; PRIOR APPLICATION NUMBER: US 60/094,190
; PRIOR FILING DATE: 1998-07-27
; NUMBER OF SEQ ID NOS: 33142
; SEQ ID NO 25561
; LENGTH: 133
; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-25561

Query Match      13.2%; Score 83.5; DB 4; Length 133;
Best Local Similarity 27.5%; Pred. No. 0.048;
Matches 33; Conservative 12; Mismatches 36; Indels 39; Gaps 7;

QY 19 PTSSRP-LETPHCRIRIGIAGITITLSLGCAN-ARAPTILRSATADN----- 64
DB 3 PTPSTPAITSSCR-TVGIA-----TAATSCSNPTKARTRSASRVNISTDDSIPTVPT 56
QY 65 ---SESTGFKNVDPDLRTDQKPPSKKSCDPSEYRVSELKESLITTPSRPRTARRIRL 121
DB 57 SRPMRKTARRKTPSTTANRTPPS-----PTPTRASR-----PRPRATRKRKSRV 100

RESULT 10
US-09-252-991A-24427
; Sequence 24427, Application US/09252991A
; Patent No. 6551795
; GENERAL INFORMATION:
; APPLICANT: Marc J. Rubenfield et al.
; TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
; TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
; FILE REFERENCE: 107196.136
; CURRENT APPLICATION NUMBER: US/09/252,991A
; CURRENT FILING DATE: 1999-02-18
; PRIOR APPLICATION NUMBER: US 60/074,788
; PRIOR FILING DATE: 1998-02-18
; PRIOR APPLICATION NUMBER: US 60/094,190
; PRIOR FILING DATE: 1998-07-27
; NUMBER OF SEQ ID NOS: 33142
; SEQ ID NO 24427
; LENGTH: 384
; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-24427

Query Match      13.2%; Score 83.5; DB 4; Length 384;
Best Local Similarity 25.0%; Pred. No. 0.2;
Matches 38; Conservative 21; Mismatches 36; Indels 57; Gaps 9;

QY 8 TTPGP-----STVFRPPTSS-----RPLETPHCRIRIGIAGITITLSLGC 49
DB 49 TPWPPTLREKSSSGTSASSVRSRPRASRTTRACSSPRC-----TLSASICRC 98
QY 50 ANARAPTILRSATADNSEST-----GFKNVDPDLRTDQK-KPPSKK-----R 88
DB 99 ASSRALLISALCACSAASTSMPTAGARN-----SQAPMKPPANRLAPTQAPASISNR 153
QY 89 SCDPSEYRV--SELKESLITTPS-RPRTARR 117
DB 154 GCRWTERAAPWCRLRKQCMCTYPSYGFPAVAKR 185

RESULT 11
US-09-252-991A-27628
; Sequence 27628, Application US/09252991A
; Patent No. 6551795
; GENERAL INFORMATION:
; APPLICANT: Marc J. Rubenfield et al.
; TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
; TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
; FILE REFERENCE: 107196.136
; CURRENT APPLICATION NUMBER: US/09/252,991A
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Matches	36;	Conservative	14;	Mismatches	51;	Indels	30;	Gaps	7;
Qy	5	QEDTPPGPSTVFRP-----	PTSSRPLETPHCREIRIGIAGITITLSLC-GC	49					
Db	77	EKNPSSPSAGCTPTCSWTACGNASCTWPTSSWKVRIPNCCSTR----	RASSTWPACSGS	132					
Qy	50	ANARAPTLRS-ATADNSESTGFKNVDPDLRTDQPKPPSKKRSKD-PSEYRVSELK-ESLIT	106						
Db	133	RRANRPSLNSRATRSRCASTA-----	SNWPRAACTSRTCDRASRWTSASIRWASSCT	184					
Qy	107	TPSRRTARR	117						
Db	185	TSAPCPTTARR	195						

Search completed: December 23, 2004, 11:05:00  
 Job time : 41 secs

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OM protein - protein search, using sw model

Run on: December 23, 2004, 11:03:37 ; Search time 145 Seconds  
(without alignments)  
299.677 Million cell updates/sec

Title: US-10-083-849B-1

Perfect score: 632  
Sequence: 1 MNALQEDTPPGSTVFRPPT.....ESLITTPSRPTARRIRL 121

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1595201 seqs, 359116952 residues

Total number of hits satisfying chosen parameters: 1595201

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA:  
1: /cgn2\_6/ptodata/2/pubpaa/US07\_PUBCOMB.pep.\*  
2: /cgn2\_6/ptodata/2/pubpaa/PCT\_NEW\_PUB.pep.\*  
3: /cgn2\_6/ptodata/2/pubpaa/US06\_NEW\_PUB.pep.\*  
4: /cgn2\_6/ptodata/2/pubpaa/US06\_PUBCOMB.pep.\*  
5: /cgn2\_6/ptodata/2/pubpaa/US07\_NEW\_PUB.pep.\*  
6: /cgn2\_6/ptodata/2/pubpaa/PCRU5\_PUBCOMB.pep.\*  
7: /cgn2\_6/ptodata/2/pubpaa/US08\_NEW\_PUB.pep.\*  
8: /cgn2\_6/ptodata/2/pubpaa/US08\_PUBCOMB.pep.\*  
9: /cgn2\_6/ptodata/2/pubpaa/US09A\_PUBCOMB.pep.\*  
10: /cgn2\_6/ptodata/2/pubpaa/US09B\_PUBCOMB.pep.\*  
11: /cgn2\_6/ptodata/2/pubpaa/US09C\_PUBCOMB.pep.\*  
12: /cgn2\_6/ptodata/2/pubpaa/US09\_NEW\_PUB.pep.\*  
13: /cgn2\_6/ptodata/2/pubpaa/US10A\_PUBCOMB.pep.\*  
14: /cgn2\_6/ptodata/2/pubpaa/US10B\_PUBCOMB.pep.\*  
15: /cgn2\_6/ptodata/2/pubpaa/US10C\_PUBCOMB.pep.\*  
16: /cgn2\_6/ptodata/2/pubpaa/US10D\_PUBCOMB.pep.\*  
17: /cgn2\_6/ptodata/2/pubpaa/US10\_NEW\_PUB.pep.\*  
18: /cgn2\_6/ptodata/2/pubpaa/US11\_NEW\_PUB.pep.\*  
19: /cgn2\_6/ptodata/2/pubpaa/US60\_NEW\_PUB.pep.\*  
20: /cgn2\_6/ptodata/2/pubpaa/US60\_PUBCOMB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	632	100.0	121	14	US-10-083-849B-1
2	629	99.5	121	14	US-10-083-849B-2
3	627	99.2	121	14	US-10-083-849B-10
4	627	99.2	121	14	US-10-083-849B-11
5	627	99.2	121	14	US-10-083-849B-12
6	626	99.1	121	14	US-10-083-849B-14
7	626	99.1	121	14	US-10-083-849B-15
8	626	99.1	121	14	US-10-083-849B-16
9	624	98.7	121	14	US-10-083-849B-13
10	622	98.4	121	14	US-10-083-849B-17
11	622	98.4	121	14	US-10-083-849B-18
12	622	98.4	121	14	US-10-083-849B-19
13	621	98.3	134	17	US-10-738-423-58

14	621	98.3	140	17	US-10-738-423-60	Sequence 60, Appl
15	621	98.3	133	9	US-10-113-790-1	Sequence 1, Appl
16	616	97.5	133	9	US-09-949-780-4	Sequence 4, Appl
17	616	97.5	133	9	US-09-949-780-6	Sequence 6, Appl
18	616	97.5	511	9	US-09-949-780-2	Sequence 2, Appl
19	608	96.2	121	14	US-10-083-849B-5	Sequence 5, Appl
20	607	96.0	121	14	US-10-083-849B-6	Sequence 6, Appl
21	607	96.0	121	14	US-10-083-849B-8	Sequence 8, Appl
22	606	95.9	121	14	US-10-083-849B-7	Sequence 7, Appl
23	604	95.6	121	14	US-10-083-849B-9	Sequence 9, Appl
24	602	95.3	121	14	US-10-083-849B-3	Sequence 3, Appl
25	598	94.6	121	14	US-10-083-849B-4	Sequence 4, Appl
26	103	16.3	223	16	US-10-437-963-190571	Sequence 190571,
27	93.5	14.8	266	16	US-10-437-963-163025	Sequence 163025,
28	90	14.2	106	16	US-10-437-963-120157	Sequence 120157,
29	85.5	13.5	209	16	US-10-437-963-108424	Sequence 108424,
30	84.5	13.4	287	16	US-10-437-963-162402	Sequence 162402,
31	83	13.1	335	16	US-10-437-963-157638	Sequence 157638,
32	83	13.1	377	14	US-10-149-819-7	Sequence 7, Appl
33	83	13.1	377	15	US-10-312-352-30	Sequence 30, Appl
34	83	13.1	625	16	US-10-437-963-143626	Sequence 143626,
35	82.5	13.1	625	16	US-10-437-963-165015	Sequence 165015,
36	82	13.0	165	16	US-10-437-963-113213	Sequence 113213,
37	82	13.0	168	16	US-10-437-963-150263	Sequence 150263,
38	81.5	12.9	216	16	US-10-767-701-57343	Sequence 57343, A
39	81.5	12.9	268	16	US-10-437-963-149247	Sequence 149247,
40	81.5	12.9	5317	16	US-10-668-767-59	Sequence 59, Appl
41	81	12.8	195	16	US-10-437-963-123418	Sequence 123418,
42	81	12.8	210	16	US-10-767-701-43838	Sequence 43838, A
43	81	12.8	897	16	US-10-437-963-189801	Sequence 189801,
44	80.5	12.7	203	17	US-10-425-115-222583	Sequence 222583,
45	80.5	12.7	315	15	US-10-425-114-66407	Sequence 66407, A

#### ALIGNMENTS

##### RESULT 1

US-10-083-849B-1  
; Sequence 1, Application US/10083849B  
; Publication No. US20030199009A1  
; GENERAL INFORMATION:  
; APPLICANT: No. US20030199009A1eborn, Mathieu  
; APPLICANT: Rohn, Jennifer Leigh  
; APPLICANT: Mumberg, Dominik  
; APPLICANT: Donner, Peter  
; TITLE OF INVENTION: Modifications of Apoptin  
; FILE REFERENCE: 2906-4996.1  
; CURRENT APPLICATION NUMBER: US/10/083,849B  
; PRIOR FILING DATE: 2001-10-19  
; PRIOR APPLICATION NUMBER: US 60/242,397  
; NUMBER OF SEQ ID NOS: 20  
; SOFTWARE: Patent in version 3.1  
; SEQ ID NO 1  
; LENGTH: 121  
; TYPE: PRT  
; ORGANISM: Chicken anemia virus  
; FEATURE:  
; NAME/KEY: MISC FEATURE  
; LOCATION: (1)..(121)  
; OTHER INFORMATION: Apoptin (a small protein derived from chicken anemia virus) enco  
; OTHER INFORMATION: ed by pCMV-Vp3 and by GFP-Apoptin constructs  
US-10-083-849B-1

Query Match 100.0%; Score 632; DB 14; Length 121;  
Best Local Similarity 100.0%; Pred. No. 1.8e-55;  
Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGITITLSLGCANARAPTURA 60  
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGITITLSLGCANARAPTURA 60

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QY 61 TADNSESTGKKNVPLDRTDQPKPPSKKSCDPSEYRVSELKESLIITTPSRPTARRR 120
;
Db 61 TADNSESTGKKNVPLDRTDQPKPPSKKSCDPSEYRVSELKESLIITTPSRPTARRR 120
;
QY 121 L 121
;
Db 121 L 121
;

RESULT 2
US-10-083-849B-2
; Sequence 2, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; APPLICANT: Donner, Peter
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: Apoptin protein encoded by pIRASneo alanine mutants
; FEATURE:
; NAME/KEY: MISC FEATURE
; OTHER INFORMATION: Differs from Apoptin protein encoded by pCMV-Vp3 and by GFP-Apoptin
; OTHER INFORMATION: in constructs by replacement of the arginine residue at position
; OTHER INFORMATION: 116 with a lysine residue
US-10-083-849B-2

Query Match 99.5%; Score 629; DB 14; Length 121;
Best Local Similarity 99.2%; Pred. No. 3.6e-55;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLSA 60
;
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLSA 60
;
QY 61 TADNSESTGKKNVPLDRTDQPKPPSKKSCDPSEYRVSELKESLIITTPSRPTARRR 120
;
Db 61 TADNSESTGKKNVPLDRTDQPKPPSKKSCDPSEYRVSELKESLIITTPSRPTARRR 120
;
QY 121 L 121
;
Db 121 L 121
;

RESULT 3
US-10-083-849B-10
; Sequence 10, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; APPLICANT: Donner, Peter
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; PRIOR FILING DATE: 2000-10-20
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; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 10
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant T106A of Apoptin
US-10-083-849B-10

Query Match 99.2%; Score 627; DB 14; Length 121;
Best Local Similarity 99.2%; Pred. No. 5.7e-55;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLSA 60
;
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLSA 60
;
QY 61 TADNSESTGKKNVPLDRTDQPKPPSKKSCDPSEYRVSELKESLIITTPSRPTARRR 120
;
Db 61 TADNSESTGKKNVPLDRTDQPKPPSKKSCDPSEYRVSELKESLIITTPSRPTARRR 120
;
QY 121 L 121
;
Db 121 L 121
;

RESULT 4
US-10-083-849B-11
; Sequence 11, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; APPLICANT: Donner, Peter
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; CURRENT FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 11
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant T107A of Apoptin
US-10-083-849B-11

Query Match 99.2%; Score 627; DB 14; Length 121;
Best Local Similarity 99.2%; Pred. No. 5.7e-55;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLSA 60
;
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLSA 60
;
QY 61 TADNSESTGKKNVPLDRTDQPKPPSKKSCDPSEYRVSELKESLIITTPSRPTARRR 120
;
Db 61 TADNSESTGKKNVPLDRTDQPKPPSKKSCDPSEYRVSELKESLIITTPSRPTARRR 120
;
QY 121 L 121
;
Db 121 L 121
;
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RESULT 5
US-10-083-849B-12
; Sequence 12, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; PRIOR FILING DATE: 2001-10-19
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 12
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant T108A of Apoptin
US-10-083-849B-12

Query Match          99.2%; Score 627; DB 14; Length 121;
Best Local Similarity 99.2%; Pred. No. 5.7e-55;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60
DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60

QY 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRRIR 120
DB 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRRIR 120

QY 121 L 121
DB 121 L 121

RESULT 6
US-10-083-849B-14
; Sequence 14, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; PRIOR FILING DATE: 2001-10-19
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 14
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant T106E of Apoptin
US-10-083-849B-14

Query Match          99.1%; Score 626; DB 14; Length 121;
Best Local Similarity 99.2%; Pred. No. 7.2e-55;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60
DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60

QY 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRRIR 120
DB 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRRIR 120

QY 121 L 121
DB 121 L 121

RESULT 7
US-10-083-849B-15
; Sequence 15, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; PRIOR FILING DATE: 2001-10-19
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 15
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant T107E of Apoptin
US-10-083-849B-15

Query Match          99.1%; Score 626; DB 14; Length 121;
Best Local Similarity 99.2%; Pred. No. 7.2e-55;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60
DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60

QY 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRRIR 120
DB 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRRIR 120

QY 121 L 121
DB 121 L 121

RESULT 8
US-10-083-849B-16
; Sequence 16, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
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; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 16
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant T108E of Apoptin
US-10-083-849B-16

Query Match
Best Local Similarity 99.1%; Score 626; DB 14; Length 121;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60

QY 61 TADNSETGFKNVPLDRTDQPKPSKRSKCDPSEYRVSELKESLITTPSRPRTARRIR 120
Db 61 TADNSETGFKNVPLDRTDQPKPSKRSKCDPSEYRVSELKESLITTPSRPRTARRIR 120

QY 121 L 121
Db 121 L 121

RESULT 9
US-10-083-849B-13
; Sequence 13, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009Aleborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; APPLICANT: Donner, Peter
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 13
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant P109A of Apoptin
US-10-083-849B-13

Query Match
Best Local Similarity 98.7%; Score 624; DB 14; Length 121;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60

QY 61 TADNSETGFKNVPLDRTDQPKPSKRSKCDPSEYRVSELKESLITTPSRPRTARRIR 120
Db 61 TADNSETGFKNVPLDRTDQPKPSKRSKCDPSEYRVSELKESLITTPSRPRTARRIR 120

QY 121 L 121
Db 121 L 121
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RESULT 10
US-10-083-849B-17
; Sequence 17, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009Aleborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; APPLICANT: Donner, Peter
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 17
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: double point mutation T106A107A of Apoptin
US-10-083-849B-17

Query Match
Best Local Similarity 98.4%; Score 622; DB 14; Length 121;
Matches 119; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60

QY 61 TADNSETGFKNVPLDRTDQPKPSKRSKCDPSEYRVSELKESLITTPSRPRTARRIR 120
Db 61 TADNSETGFKNVPLDRTDQPKPSKRSKCDPSEYRVSELKESLITTPSRPRTARRIR 120

QY 121 L 121
Db 121 L 121

RESULT 11
US-10-083-849B-18
; Sequence 18, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009Aleborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; APPLICANT: Donner, Peter
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 18
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: double point mutant T107A108A of Apoptin
US-10-083-849B-18

Query Match
Best Local Similarity 98.4%; Score 622; DB 14; Length 121;
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QY 121 L 121  
Db 140 L 140

RESULT 15  
US-10-113-790-1  
; Sequence 1, Application US/10113790  
; Publication No. US20020176860A1  
; GENERAL INFORMATION:  
; APPLICANT: No. US20020176860Aleborn, Mathieu H.M.  
; APPLICANT: Renes, Johan  
; APPLICANT: Zhang, Ying-Hui  
; TITLE OF INVENTION: FUSION PROTEINS FOR SPECIFIC TREATMENT OF CANCER AND AUTO-IMMUNE  
; FILE REFERENCE: 4819.1US (P55985US10)  
; CURRENT APPLICATION NUMBER: US/10/113,790  
; CURRENT FILING DATE: 2002-03-29  
; PRIOR APPLICATION NUMBER: US 60/280,229  
; PRIOR FILING DATE: 2001-03-30  
; NUMBER OF SEQ ID NOS: 6  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 1  
; LENGTH: 523  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Apoptin-TK fusion protein  
US-10-113-790-1

Query Match 98.3%; Score 621; DB 13; Length 523;  
Best Local Similarity 98.3%; Pred. No. 1.3e-53;  
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60  
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60  
QY 61 TADNSETGFKNVPDLRTDQKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRIR 120  
Db 61 TADNSETGFKNVPDLRTDQKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRIR 120  
QY 121 L 121  
Db 121 L 121

Search completed: December 23, 2004, 11:16:00  
Job time: 146 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 23, 2004, 10:52:36 ; Search time 39 Seconds  
(without alignments)

298.519 Million cell updates/sec

Title: US-10-083-849B-1

Perfect score: 632

Sequence: 1 MNALQBDTPPGSTVPRPPT.....ESLITTPSRPTARRRRL 121

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : PIR 79:\*

1: pir1:\*

2: pir2:\*

3: pir3:\*

4: pir4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	629	99.5	121	2 B39926	hypothetical prote
2	616	97.5	121	2 B48343	hypothetical 13K p
3	84	13.3	247	2 T32514	hypothetical prote
4	83	13.1	377	2 A48018	mucin 7 precursor,
5	81.5	12.9	982	2 T13653	hypothetical prote
6	80.5	12.7	748	2 D84595	pEARL1 4 protein f
7	80.5	12.7	3570	2 T45025	mucin MUC5B, trach
8	80	12.7	1388	2 A53317	collagen alpha 1(X
9	79.5	12.6	939	2 S28394	probable serine/th
10	79.5	12.6	1082	2 T15269	hypothetical prote
11	78.5	12.4	202	2 D70752	probable lipR prot
12	78.5	12.4	475	2 D86209	protein F22G5.18 f
13	78.5	12.4	587	2 T29324	hypothetical prote
14	78	12.3	278	2 T46458	hypothetical prote
15	77	12.2	348	2 S38148	hypothetical prote
16	76.5	12.1	182	2 T30760	hypothetical prote
17	76.5	12.1	417	2 S47539	homeotic protein H
18	76.5	12.1	587	2 T19993	hypothetical prote
19	76.5	12.1	1469	2 T09219	basal transcriptio
20	75.5	11.9	481	2 S47091	cyclase-associated
21	75.5	11.9	699	2 C43674	US4 protein - huma
22	75	11.9	667	2 T17221	hypothetical prote
23	74.5	11.8	353	2 A41558	N-syndecan - rat
24	74	11.7	491	1 S24354	p53-binding protei
25	73.5	11.6	786	1 A47547	serine proteinase
26	73	11.6	173	2 S62349	I71-3 protein - fr
27	73	11.6	493	2 S36488	E2 protein - human
28	73	11.6	631	2 A54659	DNA repair protein
29	72.5	11.5	416	2 S27198	homeotic protein H

30 72.5 11.5 3020 2 A43932 mucin 2 precursor,  
31 72 11.4 1232 2 S40766 hypothetical prote  
32 72 11.4 1250 2 T22845 hypothetical prote  
33 72 11.4 1622 2 JE0378 DNA (cytosine-5-) -  
34 71.5 11.3 506 1 W2WL47 E2 protein - human  
35 71.5 11.3 1046 2 T29776 hypothetical prote  
36 71.5 11.3 2187 2 T30826 nascent polypeptid  
37 71 11.2 411 2 S34164 homeotic protein H  
38 71 11.2 593 2 S49525 glycoprotein G - s  
39 71 11.2 975 2 T48107 hypothetical prote  
40 71 11.2 1624 2 T25592 hypothetical prote  
41 71 11.2 3507 2 T34513 hypothetical prote  
42 70.5 11.2 315 2 A58561 35K proline-rich p  
43 70.5 11.2 407 2 T36204 hypothetical prote  
44 70.5 11.2 924 2 A44945 104K microneme-rho  
45 70.5 11.2 1023 2 A59431 KIAA0013 protein l

ALIGNMENTS

RESULT 1

B39926

hypothetical protein 2 - chicken anemia virus

C;Species: chicken anemia virus, CAV

C;Date: 17-Jan-1992 #sequence\_revision 17-Jan-1992 #text\_change 09-Jul-2004

C;Accession: B39926

R;Noteborn, M.H.M.; de Boer, G.F.; van Roozelaar, D.J.; Kranenburg, O.; V.

J; Virol. 65, 3131-3139, 1991

A;Title: Characterization of cloned chicken anemia virus DNA that contains all elements

A;Reference number: A39926; MUID:91237831; PMID:1851873

A;Accession: B39926

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-121 <NOT>

A;Cross-references: UNIPROT:Q99152; GB:M55918; NID:G323250; PIDN:AAA91823.1; PID:G32325

C;Comment: This virus is unclassified.

Query Match 99.5%; Score 629; DB 2; Length 121;  
Best Local Similarity 99.2%; Pred. No. 2.1e-52;  
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALQBDTPPGSTVPRPPTSRPLETPHCREIRIGIAGITITLSLCGCANARAPTLRSA 60  
DB 1 MNALQBDTPPGSTVPRPPTSRPLETPHCREIRIGIAGITITLSLCGCANARAPTLRSA 60

QY 61 TADNSESTGKKNVPDLRTDQPPSKKSCDSEYRVSELKESLITTTSPRPTARRR 120

DB 61 TADNSESTGKKNVPDLRTDQPPSKKSCDSEYRVSELKESLITTTSPRPTARRR 120

QY 121 L 121

DB 121 L 121

RESULT 2

B48343

hypothetical 13K protein - chicken anemia virus (isolate Cux-1)

C;Species: chicken anemia virus, CAV

C;Date: 17-Feb-1994 #sequence\_revision 16-Apr-1999 #text\_change 09-Jul-2004

C;Accession: B48343

R;Meenan, B.M.; Todd, D.; Creelan, J.L.; Earle, J.A.; Hoey, E.M.; McNulty, M.S.

Arch. Virol. 124, 301-319, 1992

A;Title: Characterization of viral DNAs from cells infected with chicken anaemia agent:

A;Reference number: A48343; MUID:92296898; PMID:1605740

A;Accession: B48343

A;Molecule type: DNA

A;Residues: 1-121 <NEE>

A;Cross-references: UNIPROT:Q99152; GB:M81223; NID:G323254; PIDN:AAA42883.1; PID:G32325

A;Note: the authors translated the codon ACA for residue 41 as Gly

A;Note: sequence extracted from NCBI backbone (NCBI:106168, NCBI:106170)

Query Match 97.5%; Score 616; DB 2; Length 121;

Best Local Similarity 99.3%; Pred. No. 3.5e-51;  
Matches 119; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSVFRPPTSSRPLETPHCHREIRIGIAGITITLSLGCANARAPTLRSA 60  
Db 1 MNALQEDTPPGPSVFRPPTSSRPLETPHCHREIRIGIAGITITLSLGCANARAPTLRSA 60

QY 61 TADNSESTGKPNVPLDLDTPDKPKSKRCDPSEYRVSELKESLITTPSRPTARRRIR 120  
Db 61 TADNSESTGKPNVPLDLDTPDKPKSKRCDPSEYRVSELKESLITTPSRPTARRCIR 120

QY 121 L 121  
Db 121 L 121

RESULT 3  
T32514  
hypothetical protein C44B12.1 - Caenorhabditis elegans  
C:Species: Caenorhabditis elegans  
C:Date: 29-Oct-1999 #sequence\_revision 29-Oct-1999 #text\_change 09-Jul-2004  
C:Accession: T32514  
R:Tin-Wollam, A.  
submitted to the EMBL Data Library, December 1997  
A:Description: The sequence of C. elegans cosmid C44B12.  
A:Reference number: Z21183  
A:Accession: T32514  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: DNA  
A:Residues: 1-247 <TIN>  
A:Cross-references: UNIPROT:O44145; EMBL:AF036692; PIDN:AAB88324.1; GSPDB:GN00022; CESP:  
A:Experimental source: strain Bristol N2; clone C44B12  
C:Genetics:  
A:Gene: CESP:C44B12.1  
A:Map position: 4  
A:Introns: 28/3; 82/1; 164/1; 192/1  
C:Superfamily: Caenorhabditis elegans hypothetical protein C44B12.1

Query Match 13.3%; Score 84; DB 2; Length 247;  
Best Local Similarity 29.7%; Pred. No. 1.2; Indels 24; Gaps 6;  
Matches 35; Conservative 13; Mismatches 46; Indels 24; Gaps 6;

QY 2 NALQEDTPP-GPSTVFRPPTSSRPLETPHCHREIRIGIAGITITLSLGCANARAPTLRSA 60  
Db 109 NNQYDAPAYGFSIQRP-----RPFERQACRN-----TAIYSQESQNCSCSISSRAA 156

QY 61 TADNSESTGKPNVPLDLDTPDKPKSKK-----QKPPSKK-----RSCDPSEYRVSELKESLITTP 109  
Db 157 GSSSVSAESRRNDLRLPEAVRQEAPOEGRRKLARPC--SSMRVLHLEKSVIQLIP 212

RESULT 4  
A48018  
mucin 7 precursor, salivary - human  
N:Alternate names: mucin, MG2; mucin, MG2a-T1; mucin, MG2a-T2; mucin, MG2b-T2  
C:Species: Homo sapiens (man)  
C:Date: 16-Feb-1994 #sequence\_revision 18-Nov-1994 #text\_change 09-Jul-2004  
C:Accession: A48018; S29115; S29116; S29114  
R:Bobek, L.A.; Tsai, H.; Biesbrock, A.R.; Levine, M.J.  
J. Biol. Chem. 268, 20563-20569, 1993  
A:title: Molecular cloning, sequence, and specificity of expression of the gene encoding  
A:Reference number: A48018; MUID:93388636; PMID:7690757  
A:Accession: A48018  
A:Molecule type: mRNA  
A:Residues: 1-377 <BOB>  
A:Cross-references: UNIPROT:Q9UC08; GB:L13283  
A:Experimental source: submandibular gland  
A>Note: sequence extracted from NCBI backbone (NCBIN:137719, NCBI:P137720)  
R:Reddy, M.S.; Bobek, L.A.; Harasethy, G.G.; Biesbrock, A.R.; Levine, M.J.  
Biochem. J. 287, 639-643, 1992  
A:title: Structural features of the low-molecular-mass human salivary mucin.  
A:Reference number: S29114; MUID:93075006; PMID:1445223  
A:Accession: S29115

A:Molecule type: mRNA  
A:Residues: 143-168 <RED>  
A:Accession: S29116  
A:Molecule type: protein  
A:Residues: 'S', 71-79, 'N', 81-86, 'XX', 89, 'X', 91, 'P' <RE2>  
A:Accession: S29114  
A:Molecule type: protein  
A:Residues: 143-145, 'X', 147, 'XXX', 151-152, 'X', 154-158, 'X', 160-161, 'A', 163-164, 'XX', 167-  
C:Genetics:  
A:Gene: GDB:MUC7  
A:Cross-references: GDB:138799; OMIM:158375  
A:Map position: 4q13-4q21  
C:Keywords: glycoprotein  
F:1-18/Domain: signal sequence #status predicted <SIG>  
F:19-377/Product: mucin 7, salivary #status predicted <NAT>  
F:97,128,135,146,312/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 13.1%; Score 83; DB 2; Length 377;  
Best Local Similarity 29.2%; Pred. No. 2.3; Indels 4; Gaps 1;  
Matches 31; Conservative 8; Mismatches 63; Indels 4; Gaps 1;

QY 9 PPGSTVFRPPTSSRPLETPHCHREIRIGIAGITITLSLGCANARAPTLRSATADNSET 68  
Db 216 PTTPATTAPPSSAPPETTAAPTATPAPLSSAPPETTAVPPTSPATTLDPSSA- 274

QY 69 GPKNVPLDLDTPDKPKSKRCDPSEYRVSELKESLITTPSRPT 114  
Db 275 ---SAPPETTAAPTATPAPLSSAPPETTAAPIITTPNSPTT 317

RESULT 5  
T13653  
hypothetical protein 95B7.2 - fruit fly (Drosophila melanogaster)  
C:Species: Drosophila melanogaster  
C:Date: 13-Aug-1999 #sequence\_revision 13-Aug-1999 #text\_change 17-Nov-2000  
C:Accession: T13653  
R:Ferraz, C.; Vidal, S.; Brun, C.; Bucheton, A.; Demaille, J.G.  
submitted to the EMBL Data Library, April 1999  
A:Description: Sequencing the distal X chromosome of Drosophila melanogaster.  
A:Reference number: Z17694  
A:Accession: T13653  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: DNA  
A:Residues: 1-982 <FER>  
A:Cross-references: EMBL:AL021728; NID:e13555643; PID:e1301389; PIDN:CAA16818.1  
C:Genetics:  
A:Cross-references: FlyBase:FBgn0000376  
A:Introns: 181/1; 249/1; 774/3; 899/1; 949/3  
A>Note: EG:95B7.2

Query Match 12.9%; Score 81.5; DB 2; Length 982;  
Best Local Similarity 26.9%; Pred. No. 9.1; Indels 17; Gaps 5;  
Matches 32; Conservative 20; Mismatches 50; Indels 17; Gaps 5;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCHREIRIGIAGITITLSLGCANARAP---TL 57  
Db 1 MEELSKQPPPPPLTQPPPPSSSVSIEEP-----LPNGKGGAVVN---SIAKLPEEELL 52

QY 58 RSATADNSET--GPKNVPLDLDTPDKPKSKRCDPSEYRVSELKESLITTPSRPT 114  
Db 53 GSVTWHNCPGTRASARVIOKMQDQTRPWT---PSEREPKNKKEAKAQTSPOLKT 107

RESULT 6  
D84595  
PEARLI 4 protein [imported] - Arabidopsis thaliana  
C:Species: Arabidopsis thaliana (mouse-ear cress)  
C:Date: 02-Feb-2001 #sequence\_revision 02-Feb-2001 #text\_change 09-Jul-2004  
C:Accession: D84595  
R:Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;  
M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L.;  
euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter,  
Nature 402, 761-768, 1999

A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.

A;Reference number: A84420; MUID:20083487; PMID:10617197  
A;Accession: D84595  
A;Status: preliminary  
A;Molecule type: DNA  
A;Residues: 1-748 <SFO>  
A;Cross-references: UNIPROT:Q9SKRS; GB:AE002093; NID:g4803947; PIDN:AAD29820.1; GSPDB:GN  
C;Genetics:  
A;Gene: At2g20960  
A;Map position: 2

Query Match 12.7%; Score 80.5; DB 2; Length 748;  
Best Local Similarity 28.8%; Pred. No. 8.4; Mismatches 9; Indels 33; Gaps 5;  
Matches 36; Conservative 9

Qy 7 DTPGPGSTVPRPTSSRPLETPHCRIIRIGIAGITITLSLGCANARAPTLRSATADN-- 64

Db 199 DTRPRTPHESAATGRP-QTPETR-----PRTPDHRYATYDNR 237

Qy 65 -----SSTGKPNVPLDRLTDQPKPKSKRCDPSEYRVSELKSLIT-----TTPSRPRTA 115

Db 238 RTPHESAATERRPQTETPRTP-EHRSAPDTPRTPHESAATGRRPQTETPRPTA 236

Qy 116 RRRIR 120

Db 297 QRRGR 301

#### RESULT 7

T45025  
mucin MUC5B, tracheobronchial [imported] - human (fragment)  
C;Species: Homo sapiens (man)  
C;Date: 21-Jan-2000 #sequence\_revision 21-Jan-2000 #text\_change 21-Jul-2000  
C;Accession: T45025  
R;Desseyn, J.L.; Guyonnet-Duperat, V.; Porchet, N.; Aubert, J.P.; Laine, A.  
J. Biol. Chem. 272, 3168-3178, 1997  
A;Title: Human mucin gene MUC5B, the 10.7 kb large central exon encodes various alternat  
A;Reference number: 222899; MUID:97166151; PMID:9013550  
A;Accession: T45025  
A;Status: preliminary; translated from GB/EMBL/DBJ  
A;Molecule type: DNA  
A;Residues: 1-3570 <DES>  
A;Cross-references: EMBL:Z72496; NID:gl834502; PIDN:CAA96577.1; PID:gl834503  
A;Experimental source: placenta  
C;Genetics:  
A;Gene: MUC5B

Query Match 12.7%; Score 80.5; DB 2; Length 3570;  
Best Local Similarity 26.4%; Pred. No. 46; Mismatches 10; Indels 15; Gaps 2;  
Matches 29; Conservative 10

Qy 8 TPGPGSTVPRPTSSRPLETPHCRIIRIGIAGITITLSLGCANARAPTLRSATADNSES 67

Db 2089 TPVPVNTATTHGKSLPSSPH-----TVPATWTSATSGILGTHITPE-----S 2133

Qy 68 TGRKNVPLDRLTDQPKPKSKRCDPSEYRVSELKSLITTPSRPRTARR 117

Db 2134 TGTSTPAATGTTQPTPALSPHPSSRTTESPPSGTTTPGHTRGTSR 2183

#### RESULT 8

A53317  
collagen alpha 1(XV) chain precursor - human  
N;Alternate names: procollagen alpha 1(XV) chain  
C;Species: Homo sapiens (man)  
C;Date: 07-Jul-1995 #sequence\_revision 07-Jul-1995 #text\_change 09-Jul-2004  
C;Accession: A53317; NID:A53146; S28778  
R;Kivirikko, S.; Heinaeaeaki, P.; Rehn, M.; Honkanen, N.; Myers, J.C.; Pihlajaniemi, T.  
J. Biol. Chem. 269, 4773-4779, 1994  
A;Title: Primary structure of the alpha1 chain of human type XV collagen and exon-intron  
A;Reference number: A53317; MUID:94148920; PMID:8106446  
A;Accession: A53317  
A;Status: preliminary

A;Molecule type: mRNA  
A;Residues: 1-1388 <KIV>  
A;Cross-references: UNIPROT:P39059; GB:I25280  
A;Note: nucleotide sequence and conceptual translation not complete  
R;Muragaki, Y.; Abe, N.; Ninomiya, Y.; Olsen, B.R.; Ooshima, A.  
J. Biol. Chem. 269, 4042-4046, 1994  
A;Title: The human alpha1(XV) collagen chain contains a large amino-terminal non-triple  
A;Reference number: A53146; MUID:94140817; PMID:8307960  
A;Accession: A53146  
A;Status: preliminary  
A;Molecule type: mRNA  
A;Residues: 1-9,'S',11-48,'V',50-94,'A',96-149,'A',151-203,'V',205-408,'A',410-569 <MUR  
A;Cross-references: GB:D21230; NID:g415605; PIDN:BA04762.1; PID:dl005294; PID:g460703  
R;Myers, J.C.; Kivirikko, S.; Gordon, M.K.; Dion, A.S.; Pihlajaniemi, T.  
Proc. Natl. Acad. Sci. U.S.A. 89, 10144-10148, 1992  
A;Title: Identification of a previously unknown human collagen chain, alpha1(XV), chara  
A;Reference number: S28778; MUID:93066196; PMID:1279671  
A;Accession: S28778  
A;Status: preliminary  
A;Molecule type: mRNA  
A;Residues: 544-640,'P',642-811,'P',813-1252 <MYE>  
C;Genetics:  
A;Gene: GDB:COL15A1  
A;Cross-references: GDB:132578; OMIM:120325  
A;Map position: 9q21-9q22  
F;1-22/Domain: signal sequence #status predicted <SIG>  
F;23-1388/Product: collagen alpha 1(XV) chain #status predicted <MAT>  
F;1216-1388/Region: multiplexin collagen carboxyl-terminal homologous

Query Match 12.7%; Score 80; DB 2; Length 1388;  
Best Local Similarity 25.5%; Pred. No. 18; Mismatches 18; Indels 30; Gaps 6;  
Matches 35; Conservative 18

Qy 8 TPGPGSTVPRPTSSRPLETPHCRIIRIGIAGITITLSLGC-ANARAPTLRSATA---- 62

Db 139 TFGSHVSOEAPAFSPVPMTHRNRFAMIVQGEVTL-LVNCEHSRIFPQRSQALAFE 197

Qy 63 -----DNSESTG-----FKNVPLDRLTDQPKPKSKRCDPSEYR-----VSE 99

Db 198 SSAGIFMGNAGATGLRFTGSLQLTVHPDPTPELCDPSESSASGETSGLOEADGVAE 257

Qy 100 LKESLITTPSRPRTARR 116

Db 258 ILEA-VTYTQAGPKPEAK 273

RESULT 9  
S28394  
probable serine/threonine-specific protein kinase (EC 2.7.1.-) STE20 - yeast (Saccharom  
N;Alternate names: protein YHL007c  
C;Species: Saccharomyces cerevisiae  
C;Date: 17-Apr-1993 #sequence\_revision 17-Apr-1993 #text\_change 16-Aug-2004  
C;Accession: S28394; S46821; A47324; A57493  
R;Leberer, E.; Dignard, D.; Hargus, D.; Thomas, D.Y.; Whiteway, M.  
EMBO J. 11, 4815-4824, 1992  
A;Title: The protein kinase Ste20p is required to link the yeast pheromone re  
A;Reference number: S28394; MUID:93099855; PMID:1464311  
A;Accession: S28394  
A;Molecule type: DNA  
A;Residues: 1-939 <LEB>  
A;Cross-references: UNIPROT:Q03497; EMBL:M94719; NID:gl72746; PIDN:AAA35111.1; PID:gl72  
R;Favell, T.  
submitted to the EMBL Data Library, June 1994  
A;Description: The sequence of S. cerevisiae cosmid L5018.  
A;Reference number: S46798  
A;Accession: S46821  
A;Molecule type: DNA  
A;Residues: 1-939 <FAV>  
A;Cross-references: EMBL:U11581; NID:g508676; PIDN:AAB69747.1; PID:g508679; MIPS:YHL007.  
R;Ramer, S.W.; Davis, R.W.  
Proc. Natl. Acad. Sci. U.S.A. 90, 452-456, 1993  
A;Title: A dominant truncation allele identifies a gene, STE20, that encodes a putative  
A;Reference number: A47324; MUID:93133807; PMID:8421676



Query Match 12.3%; Score 78; DB 2; Length 278;  
Best Local Similarity 23.8%; Pred. No. 5;  
Matches 34; Conservative 14; Mismatches 59; Indels 36; Gaps 4;  
QY 10 PGSTVFRPPTSRRPLETPHCRIRICIGIATITLSLGCANRAPFLRS----- 59

```

Query Match      12.28; Score 77; DB 2; Length 340;
Best Local Similarity 33.3%; Pred.No. 7.9;
Matches 18; Conservative 8; Mismatches 22; Indels 6; Gaps 1

Qy 50 ANRAPPLRATADNNSSTGTFQNVDPUR-----TDQFKPPSKRSCDPSYRV 97
      :::::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 145 SGSKLPTFKKASSSTNLPSFKKADHGRQPIVKTDSFKPPSKFMTTEPKYRV 198

Search completed: December 23, 2004, 11:04:16
Job time : 41 secs

```





GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 23, 2004, 10:37:16 ; Search time 194 Seconds  
(without alignments)  
358.868 Million cell updates/sec

Title: US-10-083-849B-1

Perfect score: 632  
Sequence: 1 MNALQDTPPGSTVFRPPT.....ESLITTPSRPTARRIRL 121

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1825181 seqs, 575374646 residues

Total number of hits satisfying chosen parameters: 1825181

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Uniprot\_02.\*

1: uniprot\_sprot.\*

2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	632	100.0	121	2 Q8JUJ2	Q8juu2 chicken ane
2	629	99.5	121	1 VP3_CAVC1	Q91u52 chicken ane
3	629	99.5	121	2 Q9DWX2	Q9dwx2 chicken ane
4	626	99.1	121	2 Q41448	Q41448 chicken ane
5	624	98.7	121	1 VP3_CAVC1	P54094 chicken ane
6	624	98.7	121	2 Q9DRH0	Q9drh0 chicken ane
7	624	98.7	121	2 Q9DWX3	Q9dwx3 chicken ane
8	624	98.7	121	2 Q9JNK4	Q9jnk4 chicken ane
9	623	98.6	121	2 Q8JNK4	Q8jnk4 chicken ane
10	621	98.3	121	2 Q75Z29	Q75zf9 chicken ane
11	621	98.3	121	2 Q9WB33	Q9wb33 chicken ane
12	621	98.3	121	2 Q9DWW8	Q9dww8 chicken ane
13	621	98.3	121	2 BAD12197	Bad12197 chicken a
14	620	98.1	121	2 Q91N45	Q91na5 chicken ane
15	619	97.9	121	1 VP3_CAVB2	P54096 chicken ane
16	619	97.9	121	2 Q9JTK0	Q9jtk0 chicken ane
17	617	97.6	121	2 Q39313	Q39313 chicken ane
18	616	97.5	121	2 Q8JPT1	Q8jpt1 chicken ane
19	616	97.5	121	2 Q96671	Q96671 chicken ane
20	614	97.2	121	2 Q9DWX5	Q9dwx5 chicken ane
21	613	97.0	121	2 Q91B24	Q91ez4 chicken ane
22	613	97.0	121	2 Q9DWW6	Q9dww6 chicken ane
23	610	96.5	121	2 Q9DWW1	Q9dwx1 chicken ane
24	610	96.5	121	2 Q91HB6	Q91hb6 chicken ane
25	609	96.4	121	2 Q91ZU6	Q91zu6 chicken ane
26	608	96.2	121	2 Q9DWW9	Q9dww9 chicken ane
27	605	95.7	121	2 Q8J032	Q8j032 chicken ane
28	596.5	94.4	120	1 VP3_CAV26	P54095 chicken ane
29	580	91.8	113	2 Q6R533	Q6r533 chicken ane
30	580	91.8	113	2 AAR97919	Aar97919 chicken a
31	494	78.2	97	2 Q6GVG8	Q6gv98 chicken ane

32	292	46.2	58	2	Q91N90	Q91n90 chicken ane
33	292	46.2	58	2	Q91N93	Q91n93 chicken ane
34	292	46.2	58	2	Q91N97	Q91n97 chicken ane
35	292	46.2	58	2	Q91N99	Q91n99 chicken ane
36	292	46.2	58	2	Q91NA2	Q91na2 chicken ane
37	292	46.2	58	2	Q91NA8	Q91na8 chicken ane
38	292	46.2	58	2	Q91NB1	Q91nb1 chicken ane
39	292	46.2	58	2	Q91NB4	Q91nb4 chicken ane
40	292	46.2	58	2	Q91NB7	Q91nb7 chicken ane
41	292	46.2	58	2	Q91NC0	Q91nc0 chicken ane
42	289	45.7	58	2	Q91N87	Q91n87 chicken ane
43	288	45.6	58	2	Q91N84	Q91n84 chicken ane
44	94.5	15.0	1067	2	Q6NVE5	Q6nve5 mus musculu
45	94.5	15.0	1067	2	AAH68157	Aah68157 mus muscu

## ALIGNMENTS

RESULT 1						
Q8JUJ2	Q8JUJ2	PRELIMINARY;	PRT;	121	AA.	
AC	Q8JUJ2					
DT	01-OCT-2002 (Tremblrel. 22, Created)					
DT	01-OCT-2002 (Tremblrel. 22, Last sequence update)					
DT	05-JUL-2004 (Tremblrel. 27, Last annotation update)					
DE	VP3 (Apoptin).					
GN	Name=vp3;					
OS	Chicken anemia virus.					
OC	Viruses; 86DNA viruses; Circoviridae; Gyrovirus.					
OX	NCBI_TaxID=12618;					
RN	[1]					
RP	SEQUENCE FROM N.A.					
RX	PubMed=14648297;					
RA	Chowdhury S.M., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,					
RA	Md-zain B.M., Kono Y.;					
RT	"Pathogenicity, sequence and phylogenetic analysis of Malaysian					
RT	Chicken anaemia virus obtained after low and high passages in MSB-1					
RT	cells."					
RL	Arch. Virol. 148:2437-2448(2003).					
RN	[2]					
RP	SEQUENCE FROM N.A.					
RA	Chowdhury S.M.Z.H., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,					
RA	Kono Y.;					
RL	Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.					
RN	[3]					
RP	SEQUENCE FROM N.A.					
RA	Zhong L.K., Cheng H.Q., Yun L.L.;					
RL	Submitted (OCT-2002) to the EMBL/GenBank/DBJ databases.					
DR	EMBL; AF390102; AAM73651.1; -					
DR	EMBL; AV171617; AAO45416.1; -					
DR	GO; GO:0042025; C:host cell nucleus; IEA.					
DR	GO; GO:0019051; P:induction of apoptosis by virus; IEA.					
DR	InterPro; IPR006858; CAV_VP3.					
DR	Pfam; PF04771; CAV_VP3; 1.					
DR	GO SEQUENCE 121 AA; 13298 MW; D2AAB3869BD61A3E CRC64;					

Query Match						
Best Local Similarity 100.0%; Score 632; DB 2; Length 121;						
Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;						
Qy	1	MNALQDTPPGSTVFRPPTSRPLETPHCREIRIGIAGITITLSLCCGANARAP	60			
Db	1	MNALQDTPPGSTVFRPPTSRPLETPHCREIRIGIAGITITLSLCCGANARAP	60			
Qy	61	TADNSETGFKNVPDLRTPQPPSKRSCDPSEYRVSELKESLIITTTSPRPTARR	120			
Db	61	TADNSETGFKNVPDLRTPQPPSKRSCDPSEYRVSELKESLIITTTSPRPTARR	120			
Qy	121	L 121				
Db	121	L 121				

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RESULT 2
VP3_CAVC1
ID VP3_CAVC1 STANDARD; PRT; 121 AA.
AC Q99132;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Apoptin (VP3)
OS Chicken anaemia virus (German isolate Cuxhaven-1) (CAV).
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=73475;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=91237831; PubMed=1851873;
RA Noteborn M.H.M., de Boer G.F., van Roozelaar D.J., Karremans C.,
RA Krasenburg O., Vos J.G., Jeunissen S.H.M., Hoebe R.C., Zantema A.,
RA Koch G., van Ormondt H., van der Eb A.J.;
RT "Characterization of cloned chicken anaemia virus DNA that contains all
RT elements for the infectious replication cycle.";
RL J. Virol. 65:3131-3139(1991).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=92296898; PubMed=1605740;
RA Meehan B.M., Todd D., Creelan J.L., Earle J.A.P., Hoey E.M.,
RA McNulty M.S.;
RT "Characterization of viral DNAs from cells infected with chicken
RT anaemia agent: sequence analysis of the cloned replicative form and
RT transfection capabilities of cloned genome fragments.";
RL Arch. Virol. 124:301-319(1992).
CC -1- FUNCTION: May act as transcriptional regulator. Induces apoptosis
CC in infected cells. Element of infectious replication cycle.
CC -1- SUBCELLULAR LOCATION: Nuclear; nucleus of infected cells.
CC
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CC
CC EMBL; M55918; AAA91823.1; -
CC EMBL; M81223; AAA42883.1; -
CC PIR; B39926; B39926.
CC PIR; B48343; B48343.
CC InterPro; IPR006858; CAV_VP3.
CC Pfam; PF04771; CAV_VP3; 1.
CC Apoptosis; Nuclear protein.
CC CONFLICT 70 70 F -> S (in Ref. 2).
CC CONFLICT 116 116 K -> R (in Ref. 2).
CC CONFLICT 118 118 R -> C (in Ref. 2).
SQ SEQUENCE 121 AA; 13270 MW; D2AAB3869BC12A3E CRC64;

Query Match 99.5%; Score 629; DB 1; Length 121;
Best Local Similarity 99.2%; Pred. No. 1.3e-51;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNAQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
DB 1 MNAQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
QY 61 TADNSETGKXNPDLRTDQPKPKSCDSEYRVSELKSLITTTSPSRPTARRR 120
DB 61 TADNSETGKXNPDLRTDQPKPKSCDSEYRVSELKSLITTTSPSRPTARRR 120
QY 121 L 121
DB 121 L 121

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RESULT 3
Q9DWMX2
ID Q9DWMX2;
AC Q9DWMX2;
DT 01-MAR-2001 (TREMELrel. 16, Created)
DT 01-MAR-2001 (TREMELrel. 16, Last sequence update)
DT 01-JUN-2003 (TREMELrel. 24, Last annotation update)
DE VP3 protein.
GN Name=VP3;
OS Chicken anaemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21296594; PubMed=11402858;
RA Scott A.N.J., McNulty M.S., Todd D.;
RT "Characterisation of a chicken anaemia virus variant population that
RT resists neutralisation with a group-specific monoclonal antibody.";
RL Arch. Virol. 146:713-728(2001).
DR EMBL; AJ297682; CAC14758.1; -
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; 1.
SQ SEQUENCE 121 AA; 13284 MW; 82ABB3865CCBACE5 CRC64;

Query Match 99.5%; Score 629; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 1.3e-51;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNAQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
DB 1 MNAQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
QY 61 TADNSETGKXNPDLRTDQPKPKSCDSEYRVSELKSLITTTSPSRPTARRR 120
DB 61 TADNSETGKXNPDLRTDQPKPKSCDSEYRVSELKSLITTTSPSRPTARRR 120
QY 121 L 121
DB 121 L 121

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RESULT 4
Q9DWMX2
ID Q9DWMX2;
AC Q9DWMX2;
DT 01-MAR-2001 (TREMELrel. 16, Created)
DT 01-MAR-2001 (TREMELrel. 16, Last sequence update)
DT 01-JUN-2003 (TREMELrel. 24, Last annotation update)
DE VP3 protein.
GN Name=VP3;
OS Chicken anaemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=92296898; PubMed=1605740;
RA Meehan B.M., Todd D., Creelan J.L., Earle J.A.P., Hoey E.M.,
RA McNulty M.S.;
RT "Characterization of viral DNAs from cells infected with chicken
RT anaemia agent: sequence analysis of the cloned replicative form and
RT transfection capabilities of cloned genome fragments.";
RL Arch. Virol. 124:301-319(1992).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=92296898; PubMed=1605740;
RA Meehan B.M., Todd D., Creelan J.L., Earle J.A.P., Hoey E.M.,
RA McNulty M.S.;
RT "Molecular cloning of an attenuated chicken anaemia virus isolate
RT following repeated cell culture passage.";
RL Avian Pathol. 24:171-187(1995).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=98001356; PubMed=9343191;
RA Meehan B.M., Todd D., Creelan J.L., Connor T.J., McNulty M.S.;
RT "Investigation of the attenuation exhibited by a molecularly cloned

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RT chicken anemia virus isolate by utilizing a chimeric virus approach.";  
 RL J. Virol. 71:8362-8367(1997).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RA McKenna G.F.;  
 RL Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; U66304; AAC58477.1; -.  
 DR EMBL; AJ536295; CAD60259.1; -.  
 DR GO; GO:0042025; C:host cell nucleus; IEA.  
 DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.  
 DR InterPro; IPR006858; CAV\_VP3.  
 DR Pfam; PF04771; CAV\_VP3; I.  
 SQ SEQUENCE 121 AA; 13312 MW; E4AAB75960F2C5C5 CRC64;  
 Query Match 99.1%; Score 626; DB 2; Length 121;  
 Best Local Similarity 99.2%; Pred. No. 2, 4e-51;  
 Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
 QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60  
 Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60  
 QY 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120  
 Db 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120  
 QY 121 L 121  
 Db 121 L 121  
 Query Match 99.1%; Score 626; DB 2; Length 121;  
 Best Local Similarity 99.2%; Pred. No. 2, 4e-51;  
 Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
 QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60  
 Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60  
 QY 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120  
 Db 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120  
 QY 121 L 121  
 Db 121 L 121  
 RESULT 5  
 ID\_VP3\_CAVCI STANDARD; PRT; 121 AA.  
 AC PS4094;  
 DT 01-OCT-1996 (Rel. 34, Created)  
 DT 30-MAY-2000 (Rel. 39, Last sequence update)  
 DT 28-FEB-2003 (Rel. 41, Last annotation update)  
 DE Apoptin (VP3).  
 OS Chicken anemia virus (USA isolate CIA-1) (CAV).  
 OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.  
 OX NCBI\_TaxID=73478;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=97126092; PubMed=8971016;  
 RA Renshaw R.W.; Soine C.; Weinkle T.; O'Connell P.H.; Ohashi K.,  
 RA Watson S.; Lucio B.; Harrington S.; Schat K.A.;  
 RT "A hypervariable region in VP1 of chicken infectious anemia virus  
 RT mediates rate of spread and cell tropism in tissue culture.";  
 RL J. Virol. 70:8872-8878(1996).  
 RN [2]  
 RP REVISION TO 50.  
 RA Renshaw R.W.;  
 RL Submitted (JAN-1999) to the EMBL/GenBank/DBJ databases.  
 CC -1- FUNCTION: May act as transcriptional regulator. Induces apoptosis  
 CC in infected cells. Element of infectious replication cycle.  
 CC -1- SUBCELLULAR LOCATION: Nuclear; nucleus of infected cells.  
 CC  
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 CC  
 CC EMBL; L14767; AAD09423.1; -.  
 DR InterPro; IPR006858; CAV\_VP3.  
 DR Pfam; PF04771; CAV\_VP3; I.  
 KW Apoptosis; Nuclear protein.  
 SQ SEQUENCE 121 AA; 13245 MW; D2AAB39C2BD61A3E CRC64;  
 Query Match 98.7%; Score 624; DB 1; Length 121;

Best Local Similarity 99.2%; Pred. No. 4e-51;  
 Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
 QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60  
 Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60  
 QY 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120  
 Db 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120  
 QY 121 L 121  
 Db 121 L 121  
 RESULT 6  
 ID\_VP3\_CAVCI PRELIMINARY; PRT; 121 AA.  
 AC PS4094;  
 DT 01-MAR-2001 (TrEMBLrel. 16, Created)  
 DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)  
 DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)  
 DE VP3 protein.  
 DE Names=VP3;  
 OS Chicken anemia virus.  
 OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.  
 OX NCBI\_TaxID=12618;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=21296594; PubMed=11402858;  
 RA Scott A.N.J.; McNulty M.S.; Todd D.;  
 RT "Characterisation of a chicken anaemia virus variant population that  
 RT resists neutralisation with a group-specific monoclonal antibody.";  
 RL Arch. Virol. 146:713-728(2001).  
 DR EMBL; AJ297683; CAC14761.1; -.  
 DR EMBL; AJ297679; CAC14749.1; -.  
 DR EMBL; AJ297680; CAC14752.1; -.  
 DR GO; GO:0042025; C:host cell nucleus; IEA.  
 DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.  
 DR InterPro; IPR006858; CAV\_VP3.  
 DR Pfam; PF04771; CAV\_VP3; I.  
 SQ SEQUENCE 121 AA; 13272 MW; 33EFA7D7CA93013F CRC64;  
 Query Match 98.7%; Score 624; DB 2; Length 121;  
 Best Local Similarity 99.2%; Pred. No. 4e-51;  
 Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
 QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60  
 Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60  
 QY 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120  
 Db 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120  
 QY 121 L 121  
 Db 121 L 121  
 RESULT 7  
 ID\_VP3\_CAVCI PRELIMINARY; PRT; 121 AA.  
 AC PS4094;  
 DT 01-MAR-2001 (TrEMBLrel. 16, Created)  
 DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)  
 DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)  
 DE VP3 protein.  
 DE Names=VP3;  
 OS Chicken anemia virus.  
 OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.  
 OX NCBI\_TaxID=12618;

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RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21296594; PubMed=11402858;
RA Scott A.N.J., McNulty M.S., Todd D.;
RT "Characterisation of a chicken anaemia virus variant population that
RL resists neutralisation with a group-specific monoclonal antibody.";
RL Arch. Virol. 146:713-728(2001).
DR EMBL; AJ297681; CAC14755.1; -
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; I.
SQ SEQUENCE 121 AA; 13329 MW; A471DF69BD61A3F CRC64;

Query Match 98.7%; Score 624; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 4e-51;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNALQEDTPPGPSTVFRPPTSSRPLETHPCREIRIGIAGITITLSLCCGANARAPTLRSA 60
Db 1 MNALQEDTPPGPSTVFRPPTSSRPLETHPCREIRIGIAGITITLSLCCGANARAPTLRSA 60

Qy 61 TADNSESTGFKNVPLDRLTDQPKPSKRCSDPSEYRVSELKSLITTTSPRPTARRIR 120
Db 61 TADNSESTGFKNVQDLRLTDQPKPSKRCSDPSEYRVSELKSLITTTSPRPTARRIR 120

Qy 121 L 121
Db 121 L 121

RESULT 8
Q91N81 ID Q91N81 PRELIMINARY; PRT; 121 AA.
AC Q91N81;
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE VP3.
GN Name=VP3;
OS Chicken anaemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21310375; PubMed=11417817;
RA van Santen V.L., Li L., Hoerr F.J., Lauerman L.H.;
RT "Genetic characterization of chicken anaemia virus from commercial
RL broiler chickens in Alabama.";
RL Avian Dis. 45:373-388(2001).
RN [2]
RP SEQUENCE FROM N.A.
RX van Santen V.L., Toro H., Hoerr F.J.;
RA Submitted (JUL-2003) to the EMBL/GenBank/DBJ databases.
RN [3]
RP SEQUENCE FROM N.A.
RX STRAIN=AH9410;
RA MEDLINE=21195622; PubMed=11297698;
RA Yamaguchi S., Imada T., Kaji N., Mase M., Tsukamoto K., Tanimura N.,
RA Yuasa N.;
RT "Identification of a genetic determinant of pathogenicity in chicken
RL anaemia virus.";
RL J. Gen. Virol. 82:1233-1238(2001).
RN [4]
RP SEQUENCE FROM N.A.
RX STRAIN=Delrose;
RA Wu Z.Q., Li G.;
RL Submitted (OCT-1999) to the EMBL/GenBank/DBJ databases.
RN [5]
RP SEQUENCE FROM N.A.
RX PubMed=14648297;
RA Chowdhury S.M., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,
RA Md-Zain B.M., Kono Y.;
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RT "Pathogenicity, sequence and phylogenetic analysis of Malaysian
RT Chicken anaemia virus obtained after low and high passages in MSB-1
RT cells.";
RL Arch. Virol. 148:2437-2448(2003).
RN [6]
RP SEQUENCE FROM N.A.
RX Chowdhury S.M.Z.H., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,
RA Kono Y., Darus A.;
RL Submitted (JUL-2000) to the EMBL/GenBank/DBJ databases.
RN [7]
RP SEQUENCE FROM N.A.
RX Spackman E., Rosenberger J.K.;
RA Submitted (OCT-2000) to the EMBL/GenBank/DBJ databases.
RN [8]
RP SEQUENCE FROM N.A.
RX Spackman E., Rosenberger J.K.;
RA Submitted (APR-2001) to the EMBL/GenBank/DBJ databases.
RN [9]
RP SEQUENCE FROM N.A.
RX Chowdhury S.M.Z.H., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,
RA Kono Y.;
RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
RN [10]
RP SEQUENCE FROM N.A.
RX He C.Q., Li Y.L.;
RL Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.
RN [11]
RP SEQUENCE FROM N.A.
RX STRAIN=Namakkal-Indian;
RA Jadhao S.J., Pattanaik B., Toshniwal R.M., Dash B.B., Pradhan H.K.;
RL Submitted (JUN-2002) to the EMBL/GenBank/DBJ databases.
RN [12]
RP SEQUENCE FROM N.A.
RX STRAIN=A2;
RA Yamaguchi S., Kaji N., Munangandu H.M., Kojima C., Mase M.,
RA Tsukamoto K.;
RT "Quantitation of chicken anaemia virus by competitive polymerase chain
RT reaction.";
RL Avian Pathol. 29:305-310(2000).
DR EMBL; AF311190; AAK70849.2; -
DR EMBL; AB046587; BAB19636.1; -
DR EMBL; AB046588; BAB19639.1; -
DR EMBL; AB046589; BAB19642.1; -
DR EMBL; AB046590; BAB19645.1; -
DR EMBL; AF199501; AAF08299.1; -
DR EMBL; AF285882; AAK83007.1; -
DR EMBL; AF313470; AAG34178.1; -
DR EMBL; AF372658; AAK54239.1; -
DR EMBL; AF390038; AAL99896.1; -
DR EMBL; AF475908; AAL79914.1; -
DR EMBL; AF520788; AAM75347.1; -
DR EMBL; AB031296; EAA90490.1; -
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; I.
SQ SEQUENCE 121 AA; 13245 MW; D2AAB39C2BD61A3E CRC64;

Query Match 98.7%; Score 624; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 4e-51;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNALQEDTPPGPSTVFRPPTSSRPLETHPCREIRIGIAGITITLSLCCGANARAPTLRSA 60
Db 1 MNALQEDTPPGPSTVFRPPTSSRPLETHPCREIRIGIAGITITLSLCCGANARAPTLRSA 60

Qy 61 TADNSESTGFKNVPLDRLTDQPKPSKRCSDPSEYRVSELKSLITTTSPRPTARRIR 120
Db 61 TADNSESTGFKNVPLDRLTDQPKPSKRCSDPSEYRVSELKSLITTTSPRPTARRIR 120

Qy 121 L 121
Db 121 L 121
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RESULT 9
Q8JNK4 PRELIMINARY; PRT; 121 AA.
ID Q8JNK4 AC Q8JNK4; 2002 (TrEMBLrel. 22, Created)
DT 01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DE 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE VP3.
OS Chicken anemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX PubMed=14648297;
RA Chowdhury S.M., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,
RA Md-Zain B.M., Kono Y.;
RT "Pathogenicity, sequence and phylogenetic analysis of Malaysian
RT Chicken anaemia virus obtained after low and high passages in MSB-1
RL cells.";
RL Arch. Virol. 148:2437-2448(2003).
RN [2]
RP SEQUENCE FROM N.A.
RA Chowdhury S.M.Z.H., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,
RA Kono Y.;
RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY040632; AAK82947.1; -.
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; 1.
SQ SEQUENCE 121 AA; 13338 MW; CD34CA7E9BD61A3E CRC64;

Query Match 98.6%; Score 623; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 4.9e-51;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTURSA 60
DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTURSA 60
QY 61 TADNSETGFKNVDPDLRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
DB 61 TADNSETGFKNVDPDLRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
QY 121 L 121
DB 121 L 121

RESULT 11
Q9WB33 PRELIMINARY; PRT; 121 AA.
ID Q9WB33 AC Q9WB33;
DT 01-NOV-1999 (TrEMBLrel. 12, Created)
DT 01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE VP3.
OS Chicken anemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=TR20;
RA Okamura H., Sakaguchi M., Tokunaga E.;
RL Submitted (MAY-1999) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=BD-3;
RA Islam R.M., Johne R., Raue R., Todd D., Mueller H.;
RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB027470; BAA77833.1; -.
DR EMBL; AF395114; AAM20898.1; -.
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; 1.
SQ SEQUENCE 121 AA; 13272 MW; 72B7AE9C2BD60EB8 CRC64;

Query Match 98.3%; Score 621; DB 2; Length 121;
Best Local Similarity 98.3%; Pred. No. 7.6e-51;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTURSA 60
DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTURSA 60
QY 61 TADNSETGFKNVDPDLRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
DB 61 TADNSETGFKNVDPDLRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
QY 121 L 121
DB 121 L 121

RESULT 12
Q9DW8 PRELIMINARY; PRT; 121 AA.
ID Q9DW8 AC Q9DW8;
DT 01-MAR-2001 (TrEMBLrel. 16, Created)
DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE VP3 protein.
GN Name=VP3;
OS Chicken anemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.

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OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21296594; PubMed=11402858;
RA Scott A.N.J., McNulty M.S., Todd D.;
RT "Characterization of a chicken anaemia virus variant population that
RT resists neutralisation with a group-specific monoclonal antibody.";
RL Arch. Virol. 146:713-728(2001).
DR EMBL; AJ297686; CAC14770.1; -
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; I.
SQ SEQUENCE 121 AA; 13240 MW; D7ABB05D37A61A3E CRC64;

Query Match 98.3%; Score 621; DB 2; Length 121;
Best Local Similarity 98.3%; Pred. No. 7.6e-51;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCKREIRIGIAGITITLSLCCGANARAPTLRSA 60
DB 1 MNALQDATPPGPSTVFRPPTSSRPLETPHCKREIRIGIAGITITLSLCCGANARAPTLRSA 60
QY 61 TADNSETGFKNPVLDLTDQPKPSKRCSDPSEYRVSELKESLITTPSRPTARRRIR 120
DB 61 TADNSETGFKNPVLDLTDQPKPSKRCSDPSEYRVSELKESLITTPSRPTARRRIR 120
QY 121 L 121
DB 121 L 121

RESULT 13
ID BAD12197 PRELIMINARY; PRT; 121 AA.
AC BAD12197;
DT 10-MAR-2004 (TrEMBLrel. 27, Created)
DT 10-MAR-2004 (TrEMBLrel. 27, Last sequence update)
DT 10-MAR-2004 (TrEMBLrel. 27, Last annotation update)
DE VP3.
OS Chicken anaemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN=G6;
RA Inai K., Yamaguchi S.;
RT "Antigenic variation among Chicken anaemia virus strains.";
RL Submitted (SEP-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB119448; BAD12197.1; -.
SQ SEQUENCE 121 AA; 13272 MW; DA0822253B28FAD0 CRC64;

Query Match 98.3%; Score 621; DB 2; Length 121;
Best Local Similarity 98.3%; Pred. No. 7.6e-51;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCKREIRIGIAGITITLSLCCGANARAPTLRSA 60
DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCKREIRIGIAGITITLSLCCGANARAPTLRSA 60
QY 61 TADNSETGFKNPVLDLTDQPKPSKRCSDPSEYRVSELKESLITTPSRPTARRRIR 120
DB 61 TADNSETGFKNPVLDLTDQPKPSKRCSDPSEYRVSELKESLITTPSRPTARRRIR 120
QY 121 L 121
DB 121 L 121

RESULT 14
Q91NA5 PRELIMINARY; PRT; 121 AA.
ID Q91NA5
AC Q91NA5;
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DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE VP3.
OS Chicken anaemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21310375; PubMed=11417817;
RA van Santen V.L., Li L., Hoerr F.J., Lauerman L.H.;
RT "Genetic characterization of chicken anaemia virus from commercial
RT broiler chickens in Alabama.";
RL Avian Dis. 45:373-388(2001).
RN [2]
RP SEQUENCE FROM N.A.
RA van Santen V.L., Toro H., Hoerr F.J.;
RL Submitted (JUL-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF311892; AAK70825.2; -.
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; I.
SQ SEQUENCE 121 AA; 13231 MW; B4AAB39CDD618AC CRC64;

Query Match 98.1%; Score 620; DB 2; Length 121;
Best Local Similarity 98.3%; Pred. No. 9.5e-51;
Matches 119; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCKREIRIGIAGITITLSLCCGANARAPTLRSA 60
DB 1 MNGLEDTPPGPSTVFRPPTSSRPLETPHCKREIRIGIAGITITLSLCCGANARAPTLRSA 60
QY 61 TADNSETGFKNPVLDLTDQPKPSKRCSDPSEYRVSELKESLITTPSRPTARRRIR 120
DB 61 TADNSETGFKNPVLDLTDQPKPSKRCSDPSEYRVSELKESLITTPSRPTARRRIR 120
QY 121 L 121
DB 121 L 121

RESULT 15
VP3_CAV82
ID VP3_CAV82 STANDARD; PRT; 121 AA.
AC P54096;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Apoptin (VP3).
OS Chicken anaemia virus (Japanese isolate 82-2) (CAV).
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=73476;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95297149; PubMed=7778281;
RA Kato A., Fujino M., Nakamura T., Ishihama A., Otaki Y.;
RT "Gene organization of chicken anaemia virus.";
RL Virology 209:480-488(1995).
CC -!- FUNCTION: May act as transcriptional regulator. Induces apoptosis
CC in infected cells. Element of infectious replication cycle.
CC -!- SUBCELLULAR LOCATION: Nuclear; nucleus of infected cells.
CC
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CC
CC EMBL; D31965; BAA06733.1; -.
DR InterPro; IPR006858; CAV_VP3.
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